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- Cooperation in Apprenticeship
- Agricultural Advisory Committees
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American Vocational Association Convention, December 4-7, St. Louis

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# AMERICAN VOCATIONAL JOURNAL

VOLUME 22 • OCTOBER 1946 • NUMBER 8

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## The Cover

In the heart of the old Louisiana Territory, purchased by Thomas Jefferson in 1803, is a Shrine of Democracy. High on South Dakota's majestic Mt. Rushmore the faces of Washington, Jefferson, Lincoln, and Theodore Roosevelt have been carved—an imperishable record of a great people and of the noble ideals of a nation. H.H.C.

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# American Vocational Association, Inc.

**American Vocational Association, Inc., advances American education by developing economic competence of youths and adults. The Association promotes the professional interests of persons engaged in vocational and industrial arts education. It encourages full-time and part-time programs in these fields: Agriculture, Home Economics, Business and Distributive Occupations, Industrial Arts, Industrial Education, Rehabilitation, Vocational Guidance.**


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## *The George-Barden Act*

IN the closing days of the 79th Congress, late in July, the George-Barden Vocational Education Act was passed. It was signed on August 1, 1946, by President Truman. The significance of the passage of the George-Barden Act by Congress will not be fully apparent to the casual observer. However, this Act marks another in the series of important milestones indicating the steady development and growth of vocational education in the United States. It is becoming increasingly clear that the public believes in and will support a public program of vocational education.

Vocational education funds available under the George-Deen Act are more than doubled through the George-Barden Vocational Education Act.

The George-Deen Act in its original form is no longer in operation for the George-Barden Act is the George-Deen Act amended. Because of the numerous fundamental amendments, the Act will now be known as the George-Barden Act or as the "Vocational Education Act of 1946."

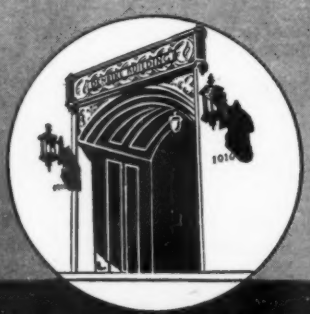
In this new legislation there is no specific appropriation authorized for vocational guidance. Congress, however, definitely included in the Act the authority to use vocational education funds in the various fields of vocational education for vocational counselors and vocational guidance supervisors.

Federal funds are authorized in this Act for the purchase or rental of equipment and supplies for vocational instruction. The provisions of the Act will make possible the extension of the area vocational school movement in this country. Funds will be available for staff and equipment in these vocational schools.

Training and work experience training programs for out-of-school youth have been recognized and authorized in the Act. An important and significant change in regulations is provided with respect to pre-employment classes for out-of-school youth over 18 years of age.

The passage of this Act during a very hectic Congressional Session is due to the vision and understanding of our Congressional leaders of both parties and to the courageous, persistent efforts of vocational education leadership working in that fine spirit of cooperative unity for which the American Vocational Association has long been noted.

***L. H. Dennis***
Executive Secretary
American Vocational Association, Inc.

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Apprentice receiving instruction in maintenance of aircraft engines

By **WILLIAM F. PATTERSON**

Director, Apprentice-Training Service, United States Department of Labor

***Vocational Education and Apprentice-Training Service Solving Mutual Problems***

# Cooperation in Apprenticeship

INTEREST and activity in the training of apprentices has assumed much greater proportions in recent months than the Federal Apprentice-Training Service anticipated. Estimates had been made of the number of apprentices needed to maintain the skilled labor force and of the number of establishments which should be able to train one or more apprentices, based on the "long pull." ATS had not calculated on such rapid strides as have been made during the last few months.

What is the cause of this tremendous upsurge in a program for which both ATS and vocational education have been fighting for so many years? What individual agency or joint agency problems have been caused by this favorable swing? What steps can be, or already have been, taken jointly and individually, to provide the high quality service to which apprentices, employers, and labor are entitled from public agencies?

There are several reasons why apprenticeship is developing rapidly now. They follow, not necessarily in order of significance.

- Employers learned a great deal about the cost in both time, money, and general aggravation from not having an adequate skilled labor force during the war. Frequently the addition of one more die-sinker, or pattern-maker, or drop-forger, or tool and die man could have saved a great many man hours of labor. As a result, literally thousands of employers have resolved that it shall not happen again.
- Labor had similar experiences and difficulties in attempting to find the skilled men needed to keep other workers turning out munitions to supply their brothers at the front. Further, labor is concerned over the advancing age of the men who have the skill. Labor knows that during many years not enough apprentices have come into the trades even to offset those whose services can no longer be counted upon.
- The G.I. Bill, which recognizes apprenticeship as a means of training by which veterans may receive subsistence allowances, is probably the most significant development to cause rapid expansion of apprenticeship. While this Act gives great impetus to apprenticeship, it also endangers it. To some employers, the subsistence allowance feature suggests an easy way to shift part of their payroll responsibility over to the government. Because there were experienced state and Federal agencies operating in the field of apprenticeship, and standards and practices had been developed by employers and labor unions, there has been no such evidences of abuse in bona fide apprenticeships as have been charged in on-the-job training. A study of wage rates paid apprentices in the construction trades, prewar and postwar, now is being made. While incomplete, it may prove that apprentices now are paid more by their employers in relation to the journeyman's wage than prewar. This in the face of the subsistence allowances and wage controls should be considered a tribute to the sincerity of employers and labor groups in the skilled trades. Public Law 679, 79th Congress, amending the G.I. Bill, should have little or no deterimental effect on the further development of apprenticeship.
- The Armed Services had an extensive program not only to provide an opportunity for further education through special courses, but to provide guidance and information service also through which both men and women were given information on different types of jobs, the means of entrance, and what was being done in their behalf. ATS was instrumental in providing much informational material on apprenticeship to the Service information and education officers. In addition, radio transcripts were prepared and broadcast by the Services. It is difficult to evaluate the effect of such work, but it did bring the ATS office more than 100 letters each week over a long

U. S. Dept. of Labor photo by Lindley

**An apprentice electrician checks relay switch wiring as part of his training**

period of time, from men all over the world. Since these Service people came from every section of the country and were well briefed before separation on their rights and privileges under Veterans legislation, part of the impetus for apprenticeship can be attributed to the pressure they are exerting on employers and local labor organizations throughout the nation.

It must be admitted that there have been disagreements between vocational educators and representatives of ATS in the past. ATS does not have full agreement on everything within its own organization. New ideas, new approaches, new methods, either within an agency or among agencies, should not be stifled. What is needed in relationships is a basic program which is clear and understandable at all levels. There is a considerable area of understanding and agreement now. For example, there is no disagreement over the necessity of training apprentices both on the job and in school. There is agreement that employers and labor should have an interest both in the job training and school training; that there should be written agreements and a progressively increasing wage scale.

Areas of disagreement should be brought to light and clarified.

There was a time when some vocational educators resented ATS as interlopers with no legitimate place in the field of training; as a camel's head under the vocational tent. Now vocational leaders recognize that bringing employers and labor together on standards of apprenticeship is an area which needs treatment separately from the art of instructing.

In some sections the problem of participation of employers and labor in the apprenticeship program is misunderstood both by members of ATS and by vocational educators. Understanding of the theory and legal requirements of the two groups will go far to solve this problem. Under Public Law 308, 75th Congress, ATS is called upon to set up standards of apprenticeship and to bring together employers and labor in programs of apprenticeship. ATS is in an advisory position to help employers and labor set up a joint apprenticeship committee to make their program work. In using the vocational schools for related instruction it seems reasonable (to ATS) that the joint committee should want to have something to say about the school program.

In this area ATS sometimes "gets off the track." Its men may make what amounts to commitments for another agency without even finding out whether the services he proposes can be made available. He may not clearly understand the legal requirements under which vocational education works, and does not comply fully with the diplomatics of fitting the employer-labor program into the legal requirements of the school system.

Under the state vocational plan there usually is a requirement for a management-labor advisory committee, appointed by the appropriate school officials. The vocational school may have followed the state plan and appointed such advisory committees, which usually are interested in full vocational program but not in a specific trade. Then the local carpenters union and the contractors want a related instruction class for apprentices and want to have a voice in standards for teacher selection and course content. Close liaison between the carpenters joint apprenticeship committee and the school is essential; whether it is necessary to disturb the existing advisory committee is a matter for the appointing authority to determine. In many cases the school designates the industry joint apprenticeship committee as an advisory committee.

When an advisory committee similar in membership to the joint apprenticeship committee has been appointed by the school, and the question arises of letting this committee also be the joint apprenticeship committee, the answer would seem best given by people in the trade. If the employers and labor are satisfied with the membership, they will designate the members of the advisory committee as the joint apprenticeship committee. The members will have a dual function: to operate their own program and to advise the school on matters it puts before them. It is then customary for a school representative to chair the committee when acting in its advisory capacity, and a member from either management or labor to serve as chairman when operating as a joint apprenticeship committee.

Collaboration in the local community will be much more effective as ATS representatives (especially new men) become more familiar with the problems of the local director of vocational education. He does not have

inexhaustible funds for new programs of related instruction; he must plan early in order to utilize school services to the best advantage of all in the community. The way to make collaboration effective is to encourage the people of the two agencies to get together in their communities, to know each other and their problems. Relations will be further cemented and service improved if the schools are represented at meetings of joint apprenticeship committees. People in industry are interested in first-hand information on the kind of service they can obtain from the schools.

Another potential area of controversy lies in the point of view that the vocational school is teaching students to become skilled workers and that they will be so recognized upon graduation. Leaders in vocational education say that is not the purpose of vocational schools. They hold that schools should set up courses based upon needs of the trade, in close liaison with employers and labor groups, so there will be a market for the services of students when they are ready for placement as apprentices. They think that industry should give credit for the training such apprentices have had in the school.

Another point of view assumes that no worthwhile trade training can be done in school and no credit should be allowed.

The remedy seems to be in obtaining understanding between the school and local joint apprenticeship committees. There also is need for constructive work in developing criteria for testing skills acquired by working either in a school or in employment, and allocating appropriate credit on the terms of apprenticeship. ATS has done some work and is setting up a section to do more.

The greatest responsibility of vocational education in apprenticeship is the provision of an adequate related trades instruction program under competent instructors both in large and small centers of population. Vocational education should work out either complete courses or course outlines; select instructors qualified to teach, or at least select persons for teachers who have a knowledge of the trade and are capable of grasping quickly instructional methods under the teacher training program; and coordinate the school program with the work apprentices currently are doing.

A highly constructive effort now is going forward to work out a uniform national program of related classroom study for railroad apprentices. Course outlines for many other trades are being developed jointly by different state boards for vocational education and the trade and industrial division of the U. S. Office of Education. These outlines are designed to provide much-needed related instruction to isolated apprentices, particularly.

"Finally, it must be said that, by and large, the vocational education aspects of apprenticeship are in better shape on the whole than are the on-the-job aspects."* No group knows better than the readers of this *Journal* that business establishments and labor unions are not pedagogical institutions. But they do train workers, consciously or unconsciously. By recognizing the need for improvement in instruction, vocational education, the ATS, and national, state, and local industry groups can effect a significant improvement in a short time. ATS has published a pamphlet, "Setting Up an Apprenticeship Program," intended to give information to assist industry, particularly with respect to employment of veterans. It carries a statement by the trade and industrial education division which urges cooperation with vocational education authorities in on-the-job training of apprentices.

Through previous action, a joint agreement between the trade and industrial education service and the ATS was worked out, known as the "Hawkins-Patterson Agreement." It defined areas of responsibility and methods of cooperation. Similar agreements on the state level have been worked out in a number of states which have justified the time, effort, and thought that went into them.

This year a joint meeting was called at Laconia, New Hampshire. A report of that conference was carried in the September issue of the *AVJournal*. This article and others in this issue represent an immediate action from the conference. Other recommendations should be carried out with equal dispatch for effective understanding and coordination of effort.

*Education for Industry Thru Apprenticeship. William Patterson and Marion Hedges. Prentice-Hall, Inc.

This apprentice carpenter is receiving instruction in nailing sub-flooring

By **L. S. HAWKINS,** *Chief, Trade and Industrial Education*
and **J. W. KELLY,** *Field Representative, U. S. Office of Education*

# Modern Apprentice Training

## Management and Labor Cooperate With Schools in Expanding the Program; Instructional Material Present Major Need

APPRENTICESHIP has existed in this country since earliest Colonial times. Not always efficient, it has existed sometimes in name only but numerous splendid examples of apprentice training have been recorded in various crafts, individual industries, and in plants operated by the Federal government, such as Navy yards, arsenals, printing and engraving plants.

A study of apprentice training programs reveals a common basic characteristic where they are or have been effective. That is, management and workers cooperate, assume definite responsibilities, and both participate in operation of the program. In the modern apprenticeship, public education renders instruction in related subjects and other phases of the craft that can not be taught adequately on the job.

Shortly before 1900, it appeared that the old apprenticeship was on the way out. Mass production, new developments in industrial processes, higher technical requirements of the trades, social legislation, and many other factors tended to increase the difficulties of organizing and operating these programs. Skilled hands and trained minds, and men with greater skill and a more comprehensive technical knowledge were being sought in increasing number, however.

The Smith-Hughes Act assisted the public schools in development of part-time and evening industrial classes for persons engaged in trades and industries and was the first definite step toward a nation-wide apprentice program. These classes made it possible for apprentices and other industrial workers to obtain the technical knowledge needed on the job and to prepare themselves for advancement.

Industrial representatives were appointed to many of the newly created State Boards for Vocational Education; trade and industrial teachers were selected on the basis of skill and experience in the occupation they were to teach; local schools sought advice from management and labor when organizing these programs, and gradually organization and utilization of representative craft committees became a necessary part of the program.

In 1923, the Federal Board for Vocational Education made a survey of part-time education and other forms of extension training in their relation to apprenticeship. Wisconsin was found to be the only state with a law providing for state supervision of the contract and training of apprentices. Other states and local communities were voluntarily cooperating.

Through these and the collective experiences of many individuals, particularly since 1917, the underlying principles of modern apprenticeship were identified and put into use, guiding the direction for the next step. A study of apprenticeship and other forms of training for wage-earning occupations under the NRA codes followed. This resulted eventually in the Federal Committee on Apprenticeship, composed of representatives of employers, employees, and Government Agencies, including the U. S. Office of Education. Created in 1934 (Fitzgerald Act) it was made permanent under the U. S. Department of Labor in 1937. The purpose of the Act is "To enable the Department of Labor to formulate and promote the furtherance of labor standards necessary to safeguard the welfare of apprentices and to cooperate with the states in promotion of such standards."

Passage of the Act brought the Apprentice-Training Service into existence under the U. S. Department of Labor. Immediately it began to promote establishment of apprenticeship standards and encouraged organization of State Apprenticeship Councils. A majority of the states now have such councils operating within State Departments of Labor or their equivalent, and working in cooperation with the U. S. Labor Department. Eighteen or more states and Hawaii now have apprenticeship laws and every state has some agency that deals with the problem.

Coincident with establishment of ATS, an agreement between the Labor Department and Office of Education was made in which responsibilities of each were defined and cooperative plans for promotion of apprentice training were made. Similar agreements were made between many of the State Apprenticeship Councils and State Boards for Vocational Education. A number of State Boards have designated the State Apprenticeship Council as State Advisory Committee for other phases of trade and industrial education. Locally, representative craft committees not only guide apprentice training but also act in an advisory capacity to school authorities, regarding other phases of training for the particular craft they represent.

The ATS provides trained field representatives to promote apprenticeship in trades and industries, to cooperate with State Councils, local craft committees, and vocational school authorities in development of apprenticeship standards and general promotion of the service. These representatives have stimulated interest in apprenticeship. As a result many new programs representing thousands of apprentices have been established under the Federal-State program. Not all apprentice programs operate under this jurisdiction. Many industries were conducting such training before the ATS or state councils were established and continue, independently. No serious difference of opinion or hostility between the groups exists because all

effective apprenticeship programs are similar. The vocational schools cooperate with the Federal-State programs and also render service to private industry and Government Navy yard establishments which they have cooperated with for more than a quarter of a century.

Apprenticeship did not make much progress during the war years, but it appears that it now will be increasingly important. Improvements in methods and machinery and the inevitable increase in competition will require higher skilled personnel. Management and labor both are aware of the situation and reports from various states indicate that they are requesting additional services from trade and industrial education with increasing emphasis on apprentice training. In California, more than 10,000 apprentices are enrolled, two-thirds representing the building trades. Approximately 90 per cent are veterans.

When a vocational school assumes the responsibility of conducting an apprenticeship program it does not fulfill that obligation by enrolling apprentices and offering related subjects courses. Functioning instructional material must be developed in cooperation with competent representatives of the craft. Selection and training of apprentice instructors, coordination of class instruction with shop experience, maintaining records and progress charts, supervising the program, an adequate budget to meet costs, and constant liaison with management and labor are essential. Two examples from widely separated centers follow, to indicate some of the ways in which vocational schools are rendering service.

Essex County Vocational and Technical High Schools, Hall of Records, Newark, N. J., on *In-School Related Instruction Program:* "Seven hundred and forty-eight apprentices employed in approximately 350 industries in Essex County are receiving instruction related to 22 different apprenticeable occupations. . . . Classes generally are operated six hours per week, 160 hours per year. The building trades facilities of the school are used for classes . . . operated under the jurisdiction of the Joint Apprenticeship Committee of the Essex County Contractors' Association and the Carpenters' District Council. Approximately 90 carpentry apprentices employed by members of this Association report to the school for related instruction which includes mathematics, plan reading and sketching, related science with sufficient practical work to clinch the theory absorbed, industrial history and labor problems, and human relations. Related instruction is part of the apprentice's work experience and he is reimbursed by the contractor for the time spent in class. Since employers want apprentices to spend the maximum time on the job, classes are conducted Saturday mornings.

"Similar classes are conducted for apprentices under the jurisdiction of the Joint Apprenticeship Committee of the Essex County Contractors' Association and Bricklayers' and Masons' Local. . . .

"The G. I. Bill has afforded the opportunity to many to participate in formal apprenticeship training programs, which has in turn made active apprenticeable occupations such as watchmaker, dental technican, upholsterer, baker, butcher, jeweler, and others which have been dormant due to lack of participants."

Also, *In-Plant Related Instruction Programs:* "Through use of two itinerant instructors, related technical instruction classes are given in 17 industrial organizations. Enrollment in classes for apprenticed toolmakers, plastic mold-makers, electricians, draftsmen, pipefitters, and wire weavers totals 240."

Second, an example of apprenticeship in the Spokane, Washington, Trade School: 508 aprentices are enrolled; 432 are veterans, 77 under Public Law 16. The school has full responsibility for the training schedule, furnishes the related technical training and checks the apprentice's work schedule to see that he obtains experience in skills required to become an all-around craftsman.

Due to seasonal work in the building trades and the many lay-offs in construction work, all apprentices in these trades are referred back to school when not on production work. The same procedure has been worked out with the machinists, auto mechanics, truck mechanics, and electricians. Plumbing, steamfitting, bricklayers, meat cutters, bakers, printers, florists, and linoleum layers are other trades now expected to follow the same plan.

Day trade preparatory courses are conducted for auto mechanics, machinists, truck maintenance, electricity, carpentry, painting, and sheet metal work and all new apprentices in these trades are selected from these courses and referred to employers. Applicants seeking employment without experience are referred to the school for pre-apprentice training. One hundred and forty veterans are enrolled in pre-apprentice courses. The school offers a two-year pre-apprentice training program. Many of the students are referred out long before they complete the two years, however. No student has been in school for longer than eight or nine months to date. At the completion of training, and when they are being accepted in the trade, the Joint Apprenticeship Committee takes into consideration their aptitudes, grades, attendance, and recommendations of the instructor. They then are given credit based upon school performance toward their regular aprenticeship training period.

The most immediate and urgent need in connection with apprenticeship is the development and distribution of funtioning related instructional material for the apprenticeable trades. Splendid material was developed by some states and the U.S. Office of Education for War Production Worker training and these states now are directing attention toward development of related instructional material for apprentice training. The next step should be the inauguration of a system of exchange between the states to make this material available wherever needed.

Another problem now apparent is interstate relations in the operation of a vocational training program for industries which operate in two or more states. The New York Central and Union Pacific Railroads have organized General Committees for Apprenticeship on which management and labor are equally represented, to establish policies under which apprentice training shall be conducted throughout their respective systems. The New York Central Committee has re-

*(Continued on page 40)*

**By Walter F. Shaw,** Regional Agent
Distributive Education, U.S. Office of Education

# Retail Selling Units in

## Western States Use Modern Equipment

UNTIL recently most of those who work in distributive education had never heard of the Sears Roebuck Foundation which operates to establish goodwill between the Company and its customers throughout the nation. Project programs of the FFA, FHA, and distributive education sections of State Boards of Vocational Education provided the Foundation with an opportunity to fulfill an obligation of citizenship of which the Company is distinctly conscious.

Aware of the value of "learning by doing," representatives of the Foundation were receptive to a proposal by Mrs. Frankie Schmitz, director of distributive education for the Seattle City Schools, that they provide funds for installing and equipping a model retail selling unit for students in distributive education classes. The proposal was accepted, plans developed, and in April, 1943, the first unit was installed in the West Seattle High School.

Prior to this time, training was being attempted with ordinary classroom equipment, nothing of actual retail atmosphere, and no merchandise. Whatever success was attained came the hard way and was a tribute to the interest, energy, and persistence of coordinators and students. When the model retail unit added store atmosphere to actual equipment and merchandise in a high school classroom, there was quickened interest on the part of students, obvious pleasure in each day's accomplishments, and the supporting attitude of local businessmen who relished the idea of giving students practice in display, organization and study of merchandising, and sound selling techniques under conditions comparable to actual store situations.

Installation of more units followed, and by May, 1946, Fred H. Westberg, state supervisor of distributive education for Washington, was able to report: "We now have model store units in Bellingham, Everett, West Seattle High School, Bremerton, Aberdeen, Yakima, Spokane (2), Puyallup, and Lincoln and Stadium High Schools in Tacoma. When Foundation funds for Washington were exhausted, locally financed units were planned for Renton, Walla Walla, and Centralia."

To the south in Oregon there were installations in Girls' Polytechnic High School of Portland and in high schools in Salem and Eugene. Across the mountains, Sears units in Provo, Logan, and Ogden were followed by handsome installations in three Salt Lake City High Schools all financed from funds contributed by local businessmen and all setting new highs in appropriate selection and installation of the most modern selling

**This excellent model department store unit was installed in March, 1944, at Girls' Polytechnic High School in Portland, Oregon.**

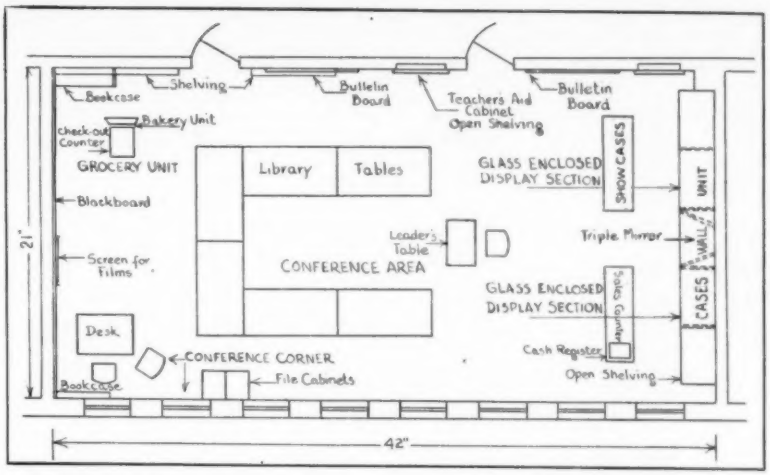
# ts in Action

equipment and supplies. Units have been allotted to California, Arizona, Montana, and Idaho. Plans for the new million dollar senior high school in Tucson, to be erected as soon as materials are available, include a specially designed room for the retail selling class.

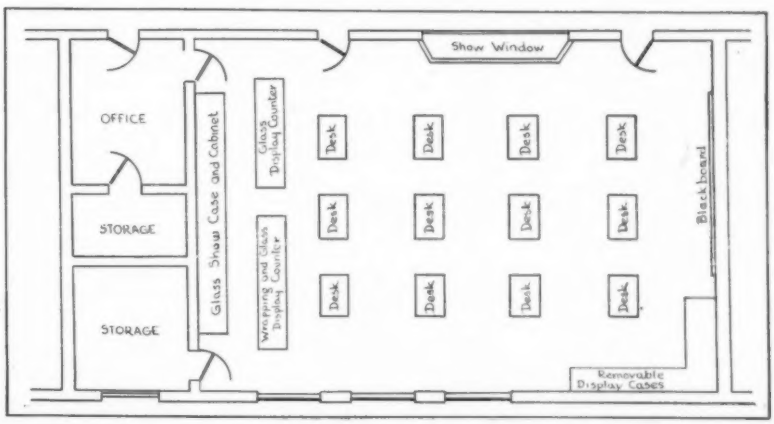
In the beginning, it was feared that there would be too many "shots of company ballyhoo" attached to an outright gift such as the Sears Foundation proposed to make. Subsequent events proved these apprehensions groundless. No strings were attached to any gift. The key was turned over to each board of education with no attempt in any local community to exploit the fact that its money made the installation possible.

Ways have always been found to surmount other difficulties such as delays due to shortages of materials and scarcity of cabinet makers. In Provo, Utah, when Clarence Tuttle, the coordinator, found he could not have the services of a cabinet-maker without a three-months delay, he designed and built the cabinets himself. The room is the "show place" of the high school now, and has reflected credit to Mr. Tuttle. In Spokane, Washington, the model unit took first prize in a free-for-all competition with other classrooms which once a year are thrown open for public inspection. In Prescott, Arizona, citizens still are talking about the day when the members of the retail selling class ran the city's principal drug store on "high school day." Streets were blocked off to accommodate the crowds, the high school band paraded, and the entire populace applauded the work of their boys and girls.

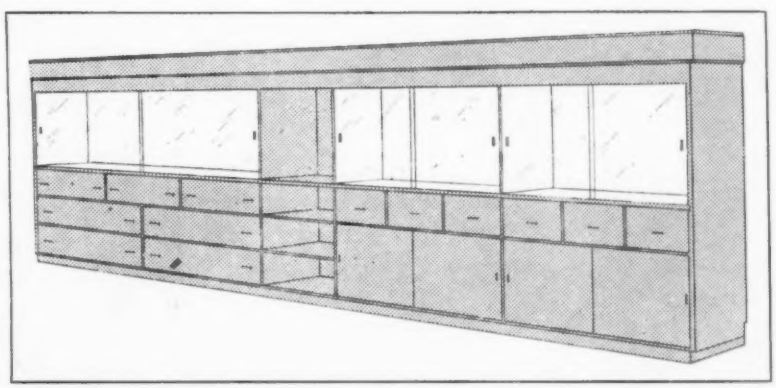
Each separate school has had to consider the physical features of the room assigned for work in retail selling and design the equipment to fit into the general room plan. The results have been a variety of interesting adaptations often presented




**Model retail selling unit for distributive trades education at Ogden, Utah, High School, showing layout for separate units, display cases, conference corner, etc.**




**A practical arrangement which provides tables for students. Show window facing the corridor provides opportunity for window display training. The coordinator's office serves as a meeting place for merchants, for counseling students, and as a base from which the coordinator operates. The modern combination of wrapping counter, display case, and wall cabinets is used in this distributive education classroom. (Drawing courtesy State Board for Vocational Education, Washington.)**

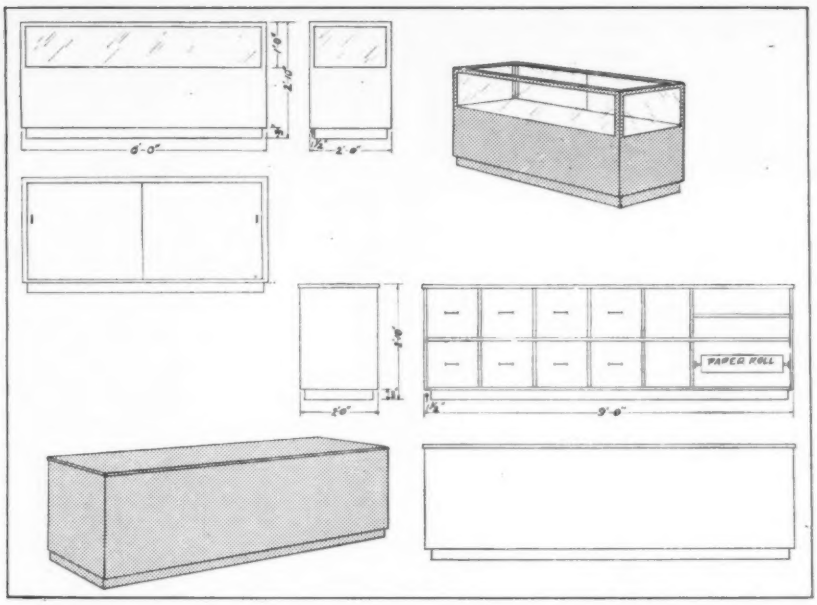


**A showcase and cabinet, model selling unit for classroom use designed by Sears Roebuck Foundation. Many are in use in school distributive education programs.**

and solved as class projects in architectural drafting. None of the units is commercially designed. Most coordinators have never dealt with cabinet specifications and drawings to scale, but with the help of a local cabinet-maker or the mechanical drawing instructor, they emerge with a handsome unit, custom-built to their own needs. Nothing has contributed more to increase and hold interest of carefully selected retail selling students than this "learn by doing" procedure made possible through installation and use of model retail selling units. Coordinators and students alike are proud of their rooms which now often serve as a meeting place for Future Retailers Clubs and local businessmen.

In the atmosphere of the store, students have shown a professional attitude difficult to attain behind an ordinary classroom desk. There is something about the tables and chairs, visual aids equipment, bulletin boards, adding machines, cash registers, inventory and stock control charts, real merchandise displayed in show cases and shadow boxes, packages to be wrapped, books to be balanced, that brings school and life into harmony.

Using the experience gained through operation of 22 units in five western states, it is possible to make at least a partial evaluation of these factors in a total program of distributive education. The Model Retail Selling Units have certainly made it possible to:




**The wrapping counter (below) and display counter are efficient selling units designed for distributive education classrooms by Sears Roebuck Foundation, and many are in use.**

- create and maintain greater student interest and secure better selection of students each year;
- facilitate learning by allowing the students to do actual retail store work, complete in all details;
- develop original thinking and a professional attitude toward retailing as a career;
- give invaluable aid to pre-employment groups who are enabled to acquire knowledge of the fundamentals of store work;
- study the display of merchandise and attain first-hand knowledge of approved practices by actually installing merchandise displays;
- create and maintain an atmosphere of realism with the use of store fixtures and actual merchandise;
- work out systems of stock control and inventory with these facilities;
- use real equipment in teaching objectively all phases of salesmanship: the presentation of merchandise, examination of merchandise for its selling points, demonstrating merchandise in use, and in handling the closing activities of the sale, such as writing the sales check, handling money, and wrapping merchandise;
- show students there is more to working in a store than serving the customer in the right manner, and to prove that there is more value in training than meets the naked eye.

**This model grocery unit is a feature of the Ogden City High School retail selling unit.**

# Sound Guidance— Sound Decisions

By DOLPH CAMP

*State Supervisor, Occupational Information and Guidance, Ark.*

## Arkansas Youth Selecting Careers Closely Reflecting State Labor Force Needs

IN ARKANSAS, local schools are reimbursed for salaries of vocational counselors from state vocational funds by the formula used to reimburse for salaries of other vocational teachers. This reimbursed guidance program was started at the beginning of the second semester of the school year 1945-46. Twenty-seven white schools and one Negro school have operated guidance programs on a reimbursable basis for one full half-year. Many more will be operated during the present school year now that Federal funds have been made available for reimbursing for vocational guidance programs by the passage of the George-Barden Act.

The first report of local vocational counselors to the state supervisor's office reflected down-to-earth vocational and educational planning on the part of 1,000 high school seniors. From the 27 white high schools, 1,090 pupils graduated. Ninety of the graduates had no after-graduation plans; 1,000 had fairly definite plans.

Occupations chosen by the 1,000 seniors and the number choosing each, follow. It is not possible to give a summary of the plans of these students for reaching their occupational objectives in a brief article.

Clerical worker, 221; teacher, 92; engineer (all types) 73; farmer, 51; salesperson, 47; nurse, 44; housewife, 42; journalist, 34; medicine (all kinds), 34; accountant, 26; telephone operator, 26; beauty operator, 26; musician, 20; mechanic, 19; church worker, including ministers, 14; merchant, retail and wholesale, 12; home economist, 11; photographer, 11; artist, 11; coach, 11; business administrator, 10; designer (fashion), 10; interior decorator, 10; lawyer, 10; radio worker (all types) 10; aviator (including Air Corps), 9; laboratory technician, 9; chemist, 7; printer (linotypists), 7; electrician, 6; forester, 6; movie operator, 6; dentist, 5; soldier, 5; store manager, 5; airline hostess, 4; plumber, 4; social worker, 3; welder, 3; advertiser, 2; bottler, 2; cashier, 2; cold storage worker, 2; conservationist, 2; factory worker, 2; FBI worker, 2; librarian, 2; lumberman, 2; oil worker, 2; Navy, 2; postal service worker, 2; seamstress, 2; transportation worker (bus and train drivers), 2; and one each of the following: auditor, architect, banking, botanist, cafe worker, carpenter, construction worker, dietician, movie actress, dry cleaner, embalmer, florist, Girl Scout worker, jeweler, machinist, public relations officer, pest control worker, traffic manager.

There is an encouraging absence of large numbers of seniors desiring glamor jobs. Only four hoped to be airline hostesses, nine aviators, one movie actress, and two FBI workers.

Comparison of these percentages with those reflected by the U. S. Census report of 1940 for the Arkansas labor force, shows that too many seniors chose clerical work and engineering and too few chose farming. In general, choices are very realistic. The percentage of the 1,000 pupils choosing a certain type of work is near the percentage of the state labor force engaged in that type of work.

More of this kind of counseling is desirable, and can be expected with the growth of the program.

**Occupational information is available to high school students**

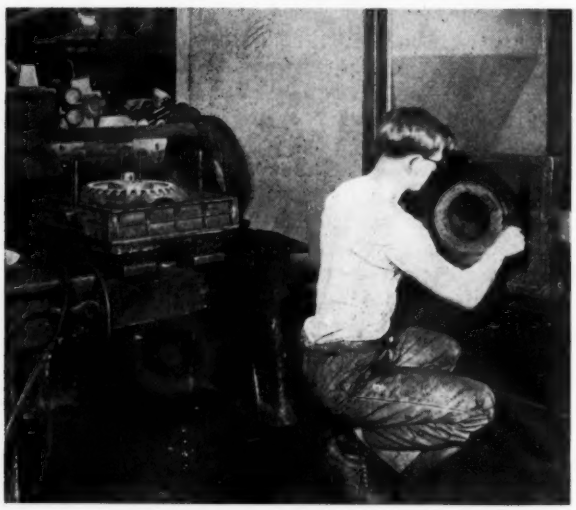
**Senior counselor and student discussing an interest inventory**

# Foundrymen a

By H. F. SCOBIE

*Educational Assistant,*
*American Foundrymen's Association*

Metal specimens polished and etched to study microstructures



Finishing gating in the cope of mold for casting bevel gear

Molding techniques, gating and risering methods being taught

VOCATIONAL schools and the American Foundrymen's Association, world-wide technical society of the foundry industry, today are accelerating their joint efforts to develop foundry courses as a step to expedite production and reconversion. Through its 33 chapters (including two in Canada and one in Mexico), the Association is carrying on a broad educational program designed to increase the number of skilled workers in the foundry industry, and vocational schools are important in the A.F.A. National Educational Program*.

The American foundry industry needs thousands of men to bring its working force up to peacetime standards. Troubled with a shortage of trained men, foundries find it impossible to meet reconversion and reconstruction demands for castings. Great tonnages of castings needed by other industries now are supplied slowly. Foundrymen look to vocational schools to provide the training needed to overcome the acute shortage of skilled workers.

The foundry industry, producing more than 15 million tons of castings annually, is basic to all other industry. Everything used and produced requires metal castings, directly or indirectly, and industrial recovery is related closely to casting production. Castings are fundamental to the economic development of a community or a nation.

The outlook for employment in the foundry industry, according to the U. S. Department of Labor, is very good for 1946-47; better than in 1945. After a number of years of high employment, a moderate decline is to be expected, but employment should remain far above the 1939 level. Another indication of the good occupational outlook in the foundry industry comes from opinions of experienced employment counsellors who find that the future is good in an industry requiring training. Most foundry positions are acquired and successfully held by trained men. These facts emphasize the significance of training and the desirability of close cooperation between vocational schools and the foundry industry.

Vocational schools should train young men to enter the foundry industry at, or near, journeyman level. As these young men acquire industrial experience, they become available to foundries as skilled workmen and provide a pool from which supervisors can be selected. Vocational schools also can provide short-term courses for specialists, advanced courses, and refresher courses. Many schools also provide pre-apprentice training for boys who later apprentice themselves to industrial foundries.

Typical vocational school aims and suggested re-

*"National Educational Program Outlines Objectives," *American Foundryman*, January, 1946. Reprints free from A.F.A., 222 W. Adams St., Chicago 6, Ill.

# ...n and Vocational Schools

## Recognizing Importance of Training, National Association Cooperates With School Programs

quirements for apprentices are those given by H. W. Hershey, instructor at Revere Trade School, Rochester, N. Y., where courses in foundry practice and pattern-making are designed for students planning to follow the trade or expecting to enter engineering college. Those expecting to follow the foundry practice course must be at least first year high school students, physically fit and willing to work. They must possess or develop a sense of responsibility. Those entering the patternmaking course should be at least first year high school students, able to work with fractions and decimals, and should have some knowledge of geometry.

Trade training in the school frequently is necessary because industrial jobs do not always supply the requirements for a fully competent worker. Some plants offer enough variety in work so that the school needs to furnish only related training. In any event, apprentices should receive some instruction in allied trades, mathematics, blueprint reading, drafting, sketching, chemistry, physics, and elementary metallurgy. In areas where emphasis is on mechanized production, some knowledge of plant layout, work routing, and materials handling might be necessary.

Vocational schools fill a special need in some areas by offering continuation courses for graduate apprentices which may be either refresher courses or advanced courses dealing with new phases of foundry practice. Refresher courses are helpful to veterans whose experience as journeymen was interrupted by the war. Many servicemen feel the need for a review of fundamentals before tackling work of journeyman caliber. Such instruction is also valuable for men whose skill has deteriorated through long unemployment. Advanced courses keep skilled workers up to date in new foundry technique and mechanical developments. The value of continuation courses is recognized by A.F.A. chapters and vocational schools frequently are called upon to offer training of a vocational-technical nature. Such training fits students to become engineering assistants, foremen, supervisors, inspectors, and sales engineers.

Need for this type of personnel was brought out in a recent report by the Committee on Relations with Industry of the American Society for Engineering Education. Estimates of this committee show that the proportion of technical institute graduates needed today is twice as great as in the early 1930s.

The type of vocational-technical education required is available in some advanced vocational schools and an increasing number of technical colleges.

Interest in vocational-technical training, stemming from the current shortage of skilled men including those capable of assuming supervisory positions, is shown in the following tabulation. It is based on a report of a Baltimore, Maryland, Association of Commerce committee which studied the needs of the foundry industry in that area. The information is an indication of the proportion of individuals with various types of training which the Baltimore foundries can absorb directly from the schools.

| *Type of Education* | *Percentage, New Employees* |
|---|---|
| Elementary school but no trade training | None |
| Elementary school with some shop type training | 20 |
| High school with incidental vocational subjects | 20 |
| Elementary school plus vocational training in high school years | 20 |
| Full high school plus specialized technical training | 40 |

Another sphere of trade training, in which some foundrymen are interested, is the special course de-

**Filling covered pouring ladle with metal from high frequency induction furnace**

signed to train workmen in a limited phase of foundry practice. Individuals completing these courses are expected to know how to perform well a specific task. Men with such a limited background may be handicapped by inability to move from one job to another without additional special training.

Foundrymen look to the vocational schools to provide the trade training and limited related instruction required to make an unskilled individual capable of performing a single task efficiently. Special courses of this type were offered during the war. Specialist training can be valuable in developing workmen to fill some immediate needs for foundry personnel.

Vocational schools contribute in apprentice or on-the-job training for veterans. Most registered apprentice programs meet the requirements for veteran training under the Vocational Rehabilitation Act and the G.I. Bill of Rights. Veteran training programs usually are supplemented by instruction in an approved school.

**Instructor teaches student application of refractory mold surfacing compound**

Vocational school students often take a survey course to become acquainted with a number of the trades, thus enabling them to make a wiser occupational choice. Whether they decide to enter the foundry industry, students have a better appreciation of foundry products and processes if they receive a well-balanced survey course taught by an enthusiastic foundry instructor. A poorly organized foundry course in a school improperly equipped to teach modern foundry techniques cannot be expected to impress students only casually interested in the casting process. Most of these students will not go into the foundry industry, but they will all use castings directly or indirectly. They should carry with them a proper impression of castings and foundry processes. Recognizing these facts, A.F.A. educational committees are cooperating with vocational schools in developing foundry courses, selecting and securing equipment, planning laboratories, etc.

Many vocational school instructors and administrators are members of A.F.A. and participate actively in chapter affairs. Special membership dues at low rates are available to educators and their participation in national A.F.A. activities is strongly encouraged. Some of the most enthusiastic and able members of national committees for apprentice training are vocational school teachers. Recognized as leaders in their field, they take an important part in promoting vocational and apprentice training, the A.F.A. National Apprentice Contest, and have contributed significantly to literature on training methods.

Foundrymen have learned that vocational schools adjust their curricula to the needs of the community's industry and teaching aids such as castings and patterns, technical books and periodicals, films, posters, and exhibits are always welcomed by the instructor.

The educational committee of the Eastern Canada and Newfoundland Chapter collects extra copies of the monthly A.F.A. publication and other technical journals and gives them to the Montreal Technical School for student use. A member of the educational committee of the Twin City Chapter, Minneapolis, Minnesota, purchased sound film strips which are loaned to schools in that area.

The U. S. Office of Education has produced a number of foundry and patternmaking training films in the past few years. The Saginaw, Michigan, Valley Chapter purchased a number of these films for local use and other chapters plan similar cooperation. The A.F.A. national office has compiled a list of available films produced for foundries, equipment manufacturers, and foundry suppliers. Most of the films on the list, which is available on request, are loaned free by the sponsors.

A.F.A. speakers appear before classes and inspection trips through modern foundries are arranged. Vocational students are invited and encouraged to attend chapter meetings. Some chapters provide a working arrangement whereby students pass out programs, distribute and collect chapter member identification badges, and participate in all meeting activities at no expense to students.

The Chicago chapter pays for A.F.A. membership of the president and secretary of the Junior Foundrymen, student foundry organization at Washburne Trade School and Crane Technical High School. Other chapters designate one meeting a year as Apprentice Night and devote the evening's activities to vocational schools, apprentices, instructors, and supervisors.

During vacation periods vocational instructors often are employed in industrial foundries or pattern shops, an arrangement of benefit to the trade teacher and to the plant which hires him.

Vocational schools are encouraged to seek the assistance and cooperation of A.F.A. which offers services through its Educational Division committees and its national office staff. For information, write to the Association headquarters, 222 W. Adams St., Chicago.

# Hotel and Restaurant Training

By MOZELLE MILLIKEN

*Instructor, Hotel and Restaurant Division*
*San Francisco Junior College*

## San Franciso Gets Inquiries From Nation and Abroad as Practical Course Becomes Known

SAN FRANCISCO Junior College offers the only two-year college level program in hotel and restaurant operation anywhere in the country. On the Pacific Coast it is used as a model and an outstanding example of how a vocational course may be organized to meet all needs of employer and employee. Inquiries regarding its general plan have come from other parts of the country and abroad.

The curriculum provides practical experience in all phases of hotel and restaurant operation, supplemented by theoretical training, to fit students for rapid advancement after starting their careers.

Experience is gained through operation of the college cafeteria where 4,000 meals are prepared and served daily to students and faculty. This work begins when students report for duty at 7:30 a.m. During the spring semester cafeteria service began at 8:00 a.m. and continued until 2:00 p.m. With the fall season, dinner service was included to meet requirements of the expanded Junior College schedule which now operates both day and night classes. Restaurant students work in shifts in handling this service.

**Making attractive, tasty cakes—S. F. Jr. College Bake Shop**

**Actual office experience—Hotel Californian, San Francisco**

Actual work in downtown hotels is part of the second year for hotel students, as is the requirement that each student work a minimum of ten weeks in the industry during the summer vacation between the first and second years. In addition to required hotel experience, a majority of the students work at part-time jobs in downtown hotels throughout their course.

Included in the curriculum are subjects ranging from quantity cooking and baking to hotel law and insurance. Particular attention is given to accounting as applied to hotel and restaurant operation. Organization and operation of various departments is stressed and the industry's part in civic and community problems is presented. Constant changes are being made in the courses to conform to the ever-changing employment picture. So well have these provisos worked that the division has maintained a record of 100 per cent employment at all times of all qualified students who complete the course.

Administered under the California Plan for Trade and Industrial Education, in cooperation with the San Francisco Board of Education, the Junior College observes the provisions of the Federal Smith-Hughes Act. Administration, by the college, follows plans suggested by an advisory committee representing all phases of the industry and organized labor.

Applicants for admission must have the recommendation of prospective employers or heads of local unions. These recommendations are based on the applicant's potential ability to profit by the training offered and on current and prospective employment possibilities.

Headed by Hilda L. Watson, graduate of Cornell University's hotel administration course, the division is staffed by instructors selected directly from industry. Many of these men are engaged in local hotel and restaurant operation, and come to the college only to give classes in their particular fields. Others

*(Continued on page 37)*

# A New Apprenticeship

***If Enough Are Trained, Painters and Paper Hangers Can Relieve Housing Situation***

TRAINING for rapidly expanding building activity is a new responsibility which vocational schools are faced with, and are meeting.

Training for the building trades is a matter of tradition (with rare exception) through regularly indentured apprenticeship. Because of the predominance of hand operations these trades are most successfully taught on the job with certain of the more intricate skills and the background or related work taught in part-time school.

There are advantages in this method of providing the nation with its needed tradesmen over the alternative of allowing beginners to "pick up" or "steal" their trade as best they can, more often than not gaining but a small portion of the skills and very little of the related information needed for success.

The United States has experienced several waves of recurring interest in apprenticeship. The most recent recession, during which apprenticeship all but disappeared from America, brought the development of the full-time long-course trade school. It now is realized that actual on-the-job experience, the major part of the apprentice agreement, is very necessary if the student is to attain proficiency and employability in the trade. To some extent, full-time Trade School graduates have difficulty in finding employment promptly in the trade for which they were trained; but the early experiences of land grant colleges were similar.

Apprenticeship, in the present wave of interest, carries an implication of mutual benefit. In these days of mass production the learner is expected to carry his share of the load and his training shifts more and more to the classroom for other than purely job relationships. Apprenticeship is so old as to ante-date most other forms of instruction and yet so new that the form in which it can serve best is still being sought. It will, in all probability, be an adjustment between apprenticeship and the trade school method, suited to the needs of the individual trade and of the worker.

Time is of great importance to the building trades program. The National Housing Agency reports that 3.5 million houses are needed in the U.S. in 1946, but predicts that only one in eight will be produced because of material shortages. As more materials are released the shortage index will shift to the available skilled tradesmen.

Considering the rapid growth in population and the equally rapid deterioration of existing housing units, these shortages will continue to grow and the problem of skilled workers to meet the need will increase.

Probably no other of the building trades is more important than the painter and paper hanger. If but one in eight of the housing units needed is built, a large number of sub-standard units will have to be made habitable by the decorators. National Housing Agency says that eight million existing housing units are considered beyond repair, but some of them must be pressed into service, supplementing other forms of temporary housing. They must be rehabilitated, largely by the painter and paper hanger. If there must be temporary housing, these houses need not be devoid of aesthetic qualities; they need not be depressing. So what appears to be a great opportunity for the painting and paper hanging trade carries implications of grave responsibility.

**Wall paper hanging is taught today in the public schools through apprenticeship**

That the decorating trade is preparing to meet this responsibility is evidenced by their all-out apprentice training programs. Hundreds of joint apprentice committees are being formed. National headquarters of the Painters Union recently flung the challenge across the nation to their many local unions: "We should have 35,000 apprentices in training right now, instead of the 2,500 on record."

Training painter apprentices will be a new experience for most schools. Possibly no other of the

By HARVEY A. HARRIS

Consultant,
Vocational Training Service
The Wall Paper Institute

Qualified instructors supervise painting and stenciling shown here

basic trades requires a mastery of so many hand skills, nor such an array of technical knowledge as is needed for advancement in this trade to satisfying levels. From intricate studies in paint failures to the manipulative skills of an artistic paper hanger, classroom studies are being planned for the apprentice, in this plan to build for intelligent craftsmanship; and as preparation for the future craftsman to assume his responsibilities to the public he is committed to serve.

Trained craftsmen are essentially maintenance engineers in their communities, a bulwark against depletion in property values. Inadequate paint jobs mark the path of most buildings on their way down grade to obsolescence. The growing need for building Education into the training of these skilled workers now is recognized by leaders in the industry and in education, and much is being done to provide the needed improvement in their vocational training.

A movement is under way to combine the efforts of the entire paint and wall paper industry—manufacture, distribution, and application—in promoting the interests of the entire industry. The Wall Paper Institute, an association of wall paper manufacturers, is first in the field. Recognizing the need for training large numbers of new paper hangers and for upgrading among present workers, the Institute has organized a vocational training service. It is a consultation service to schools and agencies interested in promotion of apprenticeship in the painting and paper hanging trades. "What to teach," and "how to teach," for adequate coverage in so broad a field presents problems to schools and teachers alike.

The writer, who now pilots this service for The Wall Paper Institute, was formerly in charge of the Washburne Trade School program in Chicago. The Institute training service provides outlines for a complete course of study covering a three-year apprenticeship, together with suggestions on "What you will need to get started," wherever needed.

New teachers will, of course, be tradesmen and will need assistance in getting started as teachers. Suitable elementary helps are included in the consultation service offered by the Institute in this well-placed effort to save time in getting off to a good start.

Unlike the semi-skilled worker, the effective painter-paper hanger-decorator must have generous technical knowledge. His work often requires ingenuity to a marked degree and where production is his objective, initiative also is needed. In addition, his employment requires skillful hand work at almost every turn.

Schools with an extensive experience in teaching the painting and paper hanging trade have had varying degrees of success. All, probably, have been handicapped by the broad coverage needed in the time allowed. A major improvement in the apprentice program would be more school time for adequate coverage of related subjects.

It seems entirely possible to map out a program combining apprenticeship with the high school in a way that would meet the need. This new apprenticeship would have several advantages. Consistent screening (possibly through Unit Trade schedules) should bring the senior student to a pre-apprentice course. Content might well be the first year of the painting, decorating, and paper hanging apprenticeship. This would make high school more purposeful to the student, preventing many drop-outs. The desire to get started early causes many to leave school. Since 61.9 per cent of all veterans did not finish high school it is imperative that every opportunity be offered that would permit them to finish a high school program, looking forward to apprenticeship as a post-high school course.

This new apprenticeship would appeal to the employer who would benefit by this previous experience for beginners. It would bring to the trade more mature youth than those who now drop out to enter apprenticeships.

Many subjects useful to the tradesman could be taught pre-apprentices. Mathematics, art, color harmony, color science, and other skills and knowledges usually are crowded out of the apprentice program. Paint failures often are a matter of chemistry. Civics and public relations both are a challenge to the student, leaving labor relations a place in the post-graduate apprenticeship studies.

This course should be rich in things to do. Paper hanging as a shop course, covering a major division of the trade, is a logical pre-apprentice subject. Without question it must be taught in the classroom, and under the guidance of a thoroughly experienced craftsman.

Vocational directors who anticipate classes in this trade, or joint apprentice committee members who need information on how to present their needs to the school, should address The Wall Paper Institute, Vocational Training Service, 19 W. 44th St., New York 18.

**Off-Campus Experiences Help to Produce Matured Homemaking Teachers in Michigan**

**By MERLE D. BYERS**
Associate Professor of
Home Economics Education
Michigan State College

# "REAL" Teaching

LEARNING to teach has become "real teaching" for seniors enrolled in the homemaking teacher education program at Michigan State College, East Lansing, Michigan.

In the fall of 1941 "out-state teaching" or "interne teaching" away from the college was made possible for all prospective teachers. Several superintendents had evidenced interest in the proposed plan and were willing to work with the college in trying it out. These superintendents were contacted early in the spring of 1941, and with the help of members of the Vocational Homemaking Education Department of the state seven schools were selected to participate. Since that time 260 students have left the campus for a period of six weeks to live in a town near Grand Rapids or Flint and work in the school and community as assistant homemaking teachers. Local administrators have interpreted the program to the faculty and community and have taken time to counsel with the students. Faculty members, other than the homemaking teachers, also have assisted these prospective teachers and shown a helpful interest.

The main responsibility for the growth of each college student, however, rests with the local homemaking teacher and a field supervising teacher who lives in the area and contacts the school several times each week. The field worker, in addition to her supervisory duties, teaches a three-credit method course directly related to the teaching situation and sees that each student participates in the types of experiences needed.

Most of the students at Michigan State need to earn 15 to 17 credits per term in order to complete their work in four years. The School of Home Economics accordingly has arranged to offer certain courses on a half-term basis for seniors during the term they teach out-state. For example, a student can teach (four credits) and carry three credits of a five-credit methods course while out-state the first half of the term. The second half of the term she can complete the methods course (two credits), live in the home management house (four credits), and take certain blocked home economics courses—one in handicrafts and the other in health care of the family. The college instructors directing the home management houses and the students feel that this scheduling gives them a well-balanced load throughout the term.

Before the college senior is scheduled for this out-state teaching experience, she completes certain foundation courses selected from each of the four departments that comprise the School of Home Economics: foods and nutrition, home management and child development, clothing and textiles, and institutional administration. In addition, she must have completed an orientation course in education, educational psychology, general methods of teaching, the first special methods course in teaching home economics, and the first term of student teaching.

The first term of student teaching is done in one of three centers near the college. Students spend from three to four hours daily observing, teaching, and participating in as many of the school and community activities as time will permit. They sometimes return to their centers for night activities but, since transportation to these schools must be provided, the amount of such participation is limited. The first home economics methods course is taken parallel with this first student teaching experience. The three experienced supervising teachers responsible for this phase of the teacher education program assist with the organization of the course, and the problems studied are chosen in terms of group needs related to student teaching.

A continuous appraisal of the program is being made by the teacher education staff with the help of the school administrators and the student teachers. Significant changes in the program have been made each year as a result of their recommendations. One feature of this evaluation that has been enjoyed by the prospective student teachers each spring has been an open meeting where all aspects of the program have been discussed and recommendations for changes and new innovations have been made. Several educators outside the field of homemaking education have participated in these appraisal meetings and have given helpful suggestions.

A summary of the values of the program, as expressed by those participating, follows:

Prospective teachers work full-time in a school program and thus have opportunity not only to see the whole job of the homemaking teacher but to experience more fully her many activities. They not only teach high school and adult homemaking classes but in many cases academic classes as well. They work with grade teachers, English, science, and speech teachers, on cooperative projects. Many student teachers assume responsibility for study halls, homerooms, and club activities.

Having one term of student teaching and methods preceding the out-state teaching-experience gives the students a basic understanding of many teaching techniques and thus they are usually able to make marked progress during the six-week period out-state.

The superintendents and principals in each school make available to the college students an opportunity to work in many school activities. Each student, with

*(Continued on page 39)*

# A Formula for INDUSTRIAL ARTS

By J. OSBORNE JOHNSON

Director of Industrial Arts
and Special Services
Denver, Colorado

## Counseling in First Year of Senior High School Helps Students and Leads to Better Program*

THE situation confronting senior high school industrial arts teachers today is that during the past 25 years opportunities for work during adolescence have practically disappeared for most boys and girls. They have enrolled in high schools in great numbers not because of any real desire to learn what has usually been taught in such schools, but because it was the most certain way to enter the world of work with a chance to get ahead. Young people seldom are afforded opportunities in present-day society to work with their elders and learn in a natural, step-by-step procedure how to assume adult responsibilities. And, lastly, the organization of modern life prevents close acquaintance between children and adults, which implies that some means must be found to discover what experiences and training will prove of greatest value to each child.

The Denver school system has attempted to modify its senior high school industrial arts program to meet some of these major changes in society which affect youth. The procedures follow.

All ninth grade pupils in junior high school shops are encouraged to enroll in Mechanical Drawing I, in their first year of senior high school. The teachers selected to handle this work are men convinced that they can cover the usual amount of essential subject matter and also do a satisfactory job of counseling, based upon cumulative records forwarded from the elementary and junior high schools, and upon aptitude and interest tests, which they give if not provided otherwise.

Toward the end of the semester these instructors have a rather adequate knowledge of each pupil's achievements and failures in school subjects, his potential mental and manipulative abilities, his health and physical weaknesses, his educational and occupational interests, and the vocations of his immediate family. They can help each pupil choose school subjects which introduce, represent, and explain those areas of life which are in harmony with his abilities and interests. When the ambitions of parents for the pupil, or the ambitions of the pupil himself, seem to disregard strong points that have been revealed, a conference always is arranged with the parent before any recommendation is made. All parents are encouraged to visit the school before approving their child's program.

In most senior high schools, industrial arts offerings have remained about the same. It was necessary to add such units or courses as agriculture, aircraft construction, electricity, and auto mechanics in various schools, but the setting in related-unit type shops provided by advanced mechanical drawing, general woodwork, general metals, printing, general crafts, electricity, and auto mechanics has seemed adequate to meet the special interests revealed in the industrial arts counseling center. Modifications in methods and management were required to adapt instruction to individual pupil's needs.

Some pupils are referred to the shops from the counseling center because they have no prominent interests. Perhaps what they need is medical attention, or a change in environment which the school cannot provide. But the industrial arts teachers believe that active participation with pupils who do have well-developed purposes, in a laboratory situation where things can and do happen, affords a better hope of awakening a sense of direction among these boys and girls than further exposure to knowledge in the more passive classroom setting.

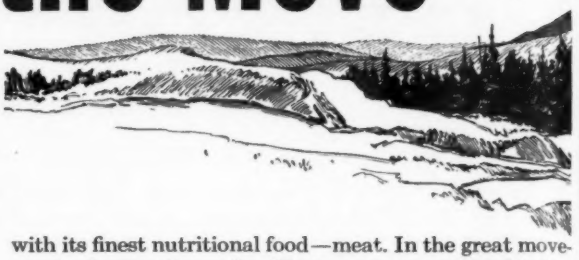
Teachers are confronted with many problems. Individual differences and needs of pupils call for planning, experimenting, investigating, organizing, evaluating. In order that such individually-initiated and directed activities do not get out of control, a pattern of class management is developing which varies from shop to shop but makes arrangements for such fundamental activities as the following:

1. Teaching and improving upon basic skills common to each area. Pupils cannot be happy or accomplish much until a degree of skill is developed that will permit them to work rapidly with tools and materials.
2. Democratically establishing the regulations to which all are expected to conform and which are to govern routine affairs of working in a laboratory.
3. Making certain pupils are learning about raw materials—their origin, extent, and substitutes—in answer to the question: "Have we adequate raw materials to support all-out production year after year?"
4. Providing opportunities each semester for individual projects, for small-group projects, and for class projects employing quantity production techniques. This provides opportunities for teachers to demonstrate their knowledge of modern industry, and creates an adult relationship where pupils are responsible to a busy man with a complex job to carry out.
5. Acquainting pupils with trade and industrial practices and products through the use of motion pictures, trips to industrial concerns, and preparation of exhibits in the school of new industrial products.

The industrial arts teachers in these senior high schools are hopeful that industrial arts may continue to offer better solutions for certain crucial social and economic problems. They know it gives added purpose to other school subjects, a condition which helps to keep youth in school. They regard industrial arts as a phase of general education but also a contributing element in specific preparation. They believe future citizens should have such basic training if their aptitudes toward technology in all its potent ramifications are to have substantial basis in actual experience.

*Taken from address at Buffalo AVA Convention.

# Grass is on the Move



Out of the sandhills of Nebraska, up from the Chama country of New Mexico . . . all the way from the state of Washington to Texas, there's a flood of livestock on the move. Feeder cattle and lambs raised in the great grass-growing regions of the United States are flowing into the feed lots of the nation. This movement reaches its peak each October, and its significance is of great economic importance to all of us in the livestock-meat industry.

These millions of head of feeder cattle and lambs are nothing more than *grass turned into meat.* True, these feeders will require a certain amount of grain to finish them as satisfactory meat animals. That's why they go into the feed lots. But were it not for these grazing animals, 779,000,000 acres of the land area of the United States would produce little, if any, human food. In other words, 41% of the total land of our nation consists of grass land which cannot be used for producing other feeds and foods. Also taking into consideration the plowable land used to produce pasture, hay and other forage crops, approximately half of our land would produce no food of human value, were it not for livestock.

Of the total feeds consumed by beef cattle, 78.7% is grass, hay and dry roughages. With lambs, it is 95.6%. These are official figures of the United States Department of Agriculture. Thus, the grain that goes into feeder cattle and lamb rations is but a relatively small part of the feed that makes our meat. A minimum of corn is needed to bring feeder steers from 700 to 1,000 pounds when the principal part of the ration is made up of fodder, corn silage, other available roughages and some concentrates.

In addition to utilizing grass which otherwise would be *wasted*, the production of livestock furnishes the nation with its finest nutritional food—meat. In the great movement of meat from the Western range to the kitchen range, the stop-over in the feed lots increases the amount of meat. It also levels out the fall flood of livestock into a more even year-round marketing. Thus seasonal price fluctuations are not so marked. In the production of livestock, the majority of America's 6,000,000 farmers and ranchers find the chief means of marketing their grass and other home-grown feeds.

**Soda Bill Sez:**

*. . . a farmer doesn't go to work—he wakes up surrounded by it.*

*. . . if you are looking for a helping hand, try the one at the end of your arm.*

## *Martha Logan's Recipe for*

## DEEP DISH MEAT PIE

***Yield:* 6 Servings**

2 cups diced cooked meat (beef and pork)
Salt, Pepper
2 tablespoons flour
2 tablespoons lard
2 medium sized onions
1 cup cooked diced potatoes
1 cup cooked peas
1 cup cooked diced carrots

### BISCUIT TOPPING

¼ cup lard
2 cups sifted flour
3 teaspoons baking powder
½ teaspoon salt
1 cup milk (about)

Season meat. Dredge in flour. Add minced onion and brown in hot lard. Add vegetables and hot water to cover. Pour into a deep, wide casserole or baking dish. Heat. Make drop biscuits by cutting fat into flour sifted with baking powder and salt. Add enough milk to make a very soft dough. Drop by tablespoons on top of the meat mixture. Bake in a hot oven (425° F.) about 20 minutes or until the biscuits are well browned.

*W. H. Peters*

## SELECTING JUNIOR CLUB STEERS

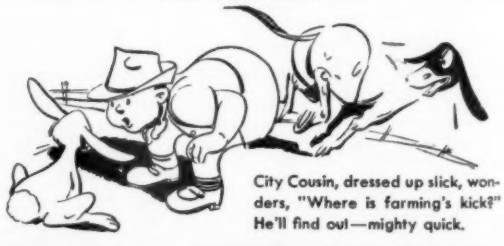
by W. H. Peters
University of Minnesota

Every boy and girl who enters a junior feeding contest would like to secure a feeder steer good enough to become a champion. In selecting calves with this high aim in mind, the "satisfactory prospect" must be a purebred or high-grade of one of the recognized beef breeds, Shorthorn, Hereford, or Angus.

The calf or yearling steer in thin condition must appear short in legs in proportion to his depth of body, or to put it the other way around, he must appear deep in body in proportion to his length of legs. He must then appear to be wide in his body and thickly covered with muscle, especially over the loin and down through the thighs.

The feeder calf should have a short neck and a short, broad head. He should appear moderately fine or small in the legs and head as an indication that he will fatten smoothly and show quality when fat. Large, coarse-appearing calves and small over-refined ones seldom develop into winners. Calves that appear nervous and easily excited or frightened should be avoided as they are likely to not do well and to be hard to train to lead.

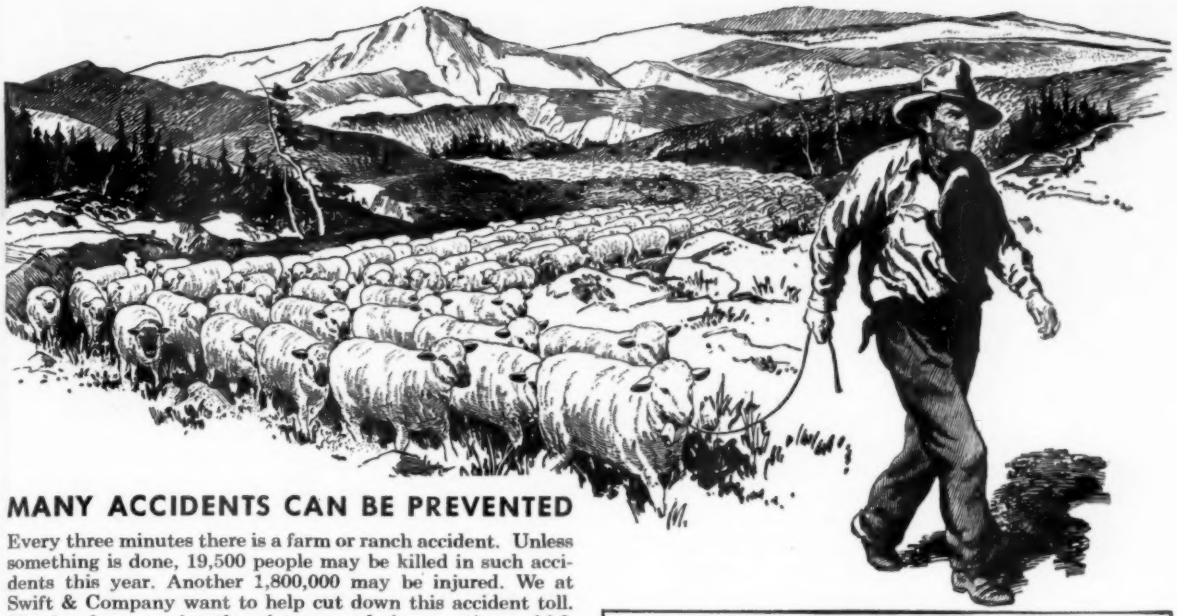
**OUR CITY COUSIN**



City Cousin, dressed up slick, wonders, "Where is farming's kick?" He'll find out—mighty quick.

***Meat Buying Customs*** is the title of a new animated sound cartoon movie, filmed in color. It's a fast-moving chapter of our fast-moving industry. We'll gladly send it to you for group meetings. All you pay is express one way. It's in great demand, so please allow several weeks for delivery. It's a 16-mm. sound film and *cannot* be used on a silent projector. Other films available on the same basis are: "By-Products," "Livestock and Meat," "A Nation's Meat," "Cows and Chickens . . . U. S. A." Write to Department 10A, Swift & Company, Chicago 9, Ill.

When writing advertisers please mention *American Vocational Journal.*



## MANY ACCIDENTS CAN BE PREVENTED

Every three minutes there is a farm or ranch accident. Unless something is done, 19,500 people may be killed in such accidents this year. Another 1,800,000 may be injured. We at Swift & Company want to help cut down this accident toll. That's why we print the pictures and the questions which follow. *Little* chances not taken, *little* repairs made, can prevent *big* accidents. Do you take the chances shown below? Check yourself.

Do you have a strongly built bull pen? Do you lead the bull around on a rope because you do not have a bullstaff? Do you approach horses from behind without speaking and patting their rumps to warn them? Then watch yourself . . . *one out of four fatal farm accidents occurs in handling livestock.*

☐ I never handle animals carelessly ☐ I approach animals without warning

Do you leave safety shields off power shafts, gears and chains? Wear loose-fitting clothing that may catch in machinery? Operate the tractor on dangerous inclines or banks? *Mishandled machinery and equipment are involved in nearly one out of three fatal farm accidents.*

☐ I am never careless around machinery ☐ I sometimes take chances with machinery

### *Marketing Dairy and Poultry Products*

The same nationwide facilities which are used to distribute meat are ideal for the distribution of dairy and poultry products. All these products are perishable and require refrigeration. Many consumers buy their butter, cheese, eggs, poultry and meats from the same store. So, as you can see, it is more economical to have one Swift & Company salesman who sells 16 or more products than 16 salesmen each selling one product. Further, costs are reduced by having the same trucks deliver these products at the same time to the same dealer.

By preparing, handling and selling dairy and poultry products, as well as meat, distribution costs are reduced on all these foods. Our objective is to provide wider outlets for the products of America's farms and ranches. We have a booklet entitled "Dairy and Poultry Products" which we will gladly send you. Just write to Swift & Company, Department A-3, Chicago 9, Illinois.

## TEAMWORK

While we were preparing the "Grass is on the Move" article for this page, a cattleman friend from one of the western range states called to see me. I told him about the article. "It points out," I said, "that lots of food for humans is produced from areas that otherwise would be waste land if it were not for meat animals."

He said, "That's good! There are always misguided people who complain that it's a waste to feed corn and other grains to livestock. They say *people* ought to eat the grain, instead of turning it into meat. They forget that most of that meat is made of grass, hay and other roughage that people *can't* eat.

"Another thing too many people forget," he went on, "is the important job you meat packers do in getting meat to the people who want it. I understand that meat travels an average of more than 1,000 miles from producers to consumers. That must be so because we fellows west of the Mississippi raise two-thirds of the livestock. But two-thirds of the meat is eaten *east* of the Mississippi, where most of the people live. In a way, we who raise and finish the animals are like manufacturers. And you are our sales and distributing departments. Believe me, we *need* an organization that covers the nation to get our product into every market in this big country. It seems to me that you and we are in this business *together*, and neither could get along without the other."

It seems to me that he's right! F. M. Simpson.

*Agricultural Research Department*

**Swift & Company** UNION STOCK YARDS CHICAGO 9, ILLINOIS

• • • NUTRITION IS OUR BUSINESS—AND YOURS • • •

*Right Eating Adds Life to Your Years—and Years to Your Life*

**The Education Development Act of 1947,** introduced into the 79th Congress just before adjournment as S. 2499, will be reintroduced in the 80th Congress when it convenes in January. It would establish a national policy for education and a 10-year program of assistance to states, starting with $500,000,000 for the year ending June 30, 1948 and increasing gradually to $1,000,000,000 for 1957. The bill contains a formula for distribution to the States under which they must furnish their share of support to schools. The funds would be divided as follows: 3 per cent for pre-elementary education; 33 per cent for elementary education; 33 per cent for secondary education, including vocational education of non-collegiate grade; 17 per cent for higher education; 3 per cent for community recreation and adult education; 3 per cent for special education of physically handicapped children and youth; 3 per cent for health and physical education; 3 per cent for public library services. Provision is made for scholarships and fellowships ($70,000,000 for 1948 increasing to $350,000,000 for 1957). Twenty per cent of a State's allotment must be for students enrolled in the last two years of high school; 40 per cent for students who are high school graduates and are enrolled, or eligible to enroll, in junior colleges, technical institutes, vocational schools, colleges, and universities. Provision also is made for school planning and construction ($200,000,000 increasing to $400,000,000); camping programs ($25,000,000 increasing to $125,000,000); and research ($10,000,000 increasing to $25,000,000). To qualify for receiving funds a State must establish, or designate, a single State agency as the sole agency for preparing and carrying out, or supervising the carrying out, of state plans under the Act (among other provisions). The benefits provided are to be made available to public and non-public tax-exempt schools and educational institutions.

**Surplus real estate** property now may be legally transferred free by the War Assets Administration to States and non-profit educational institutions.

**Federal Security Agency** has announced an expanded Army donation program, making available air conditioning, refrigeration, electronic, drafting, and laboratory equipment exclusively for vocational training and instruction. Costs to educational institutions are packing, handling, and shipping. Navy donations, handled in the same way, include excess or obsolete machinery, tools, boats, airborne electronics, etc.

**The Federal Advisory Board on Vocational Education** was abolished under the President's reorganization plan. G.H.F.

# Scholastic Industrial Arts Awards Program

WHAT boy would like a Delta lathe for his basement workshop? Or a Delta scroll saw? Eight boys in this country will receive lathes or scroll saws as prizes for work submitted in the 1947 Industrial Arts Awards.

How would an industrial arts student like to be the owner of an X-Acto hobby set or knife outfit? Eighty-four boys will receive these prizes for their industrial arts projects entered in model-making classifications.

Hunt Artist or Speedball pens go to mechanical drawing winners from C. Howard Hunt Pen Co.

Others have an opportunity to win cash prizes ranging from $10 to $50 offered by Scholastic Magazines or co-sponsoring industries. Altogether more than 450 awards are offered for outstanding industrial arts projects. Industries participating as co-sponsors or offering supplementary prizes are: Delta Manufacturing Division, Rockwell Manufacturing Co., Aluminum Company of America, Park Instrument Co., Higgins Ink Co., C. Howard Hunt Pen Co., X-Acto Crescent Products Co., Inc., Strathmore Paper Co.

The industries co-sponsoring the Awards offer numerous teacher aids. Write to Scholastic Industrial Arts Awards, 220 E. 42nd St., New York 17, N. Y. for any of the following:

How to Plan a School Workshop (booklet); List of Operating Manuals and Project Plans (catalog of aids); Aluminum: Its Story (booklet); Park Drafting Instruments (catalog); The History of Ink (pamphlet); Ink Sketching (pamphlet); The Biography of Chas. M. Higgins (mimeographed); six large classroom charts of lettering instruction covering basic alphabets, with manuscript by Ross F. George; charts: reproductions of historical fine pen engrossing: How to Build Solid Scale Model War Planes: Principles and techniques applicable to award classification MM1 (pamphlet, 10¢); Samples of Strathmore artistboard.

William E. Warner, Professor of Education, Ohio State University, has accepted membership on the National Executive Advisory Committee of Scholastic Industrial Arts Awards. "It is a sound move and will do a lot of good," he writes. Members now include Frank C. Moore, Cleveland Public Schools; Clyde A. Bowman, Stout Institute; Roy G. Fales, New York State Education Department; and George H. Fern, *American Vocational Journal.* Names of additional advisors will be announced.

Rules Booklets for the Scholastic Industrial Arts Awards will be in the mails soon. This 8-page folder gives a list of classifications, awards, deadlines, etc.

# ADVISORY COUNCILS *for* Agricultural Education

By H. M. HAMLIN

Professor of
Agricultural Education
University of Illinois

### Experience in Illinois Demonstrates Values and Indicates Present Need

ADVISORY councils have long been used in a limited way in conducting vocational education in agriculture. Massachusetts for 29 years has required every school with a department of vocational agriculture to have an advisory council. Indiana has had a requirement that an advisory council be set up in each community wishing to establish a new department. There have been local examples of advisory councils in many states.

Though the idea of using councils has seemed to be a good one, it has not attained wide popularity. The modern use of advisory councils for departments of vocational agriculture comes largely from the successful use of councils in conducting adult classes. Interest in and attendance at adult classes has seemed to be rather directly proportional to the effectiveness with which councils have been used.

About five years ago the Agricultural Education Department at the University of Illinois, with the cooperation of a small group of schools, began a project which involved the use of general advisory councils. Out of experience with schools that have used advisory councils, certain conclusions have been reached.

First of all, agriculture teachers are not trained to use advisory councils. Most teachers would not know what to do with councils if they had them. Many of them do not have personalities or philosophy of life and of education adapted to the use of councils. Lacking an understanding of the possibilities of councils and indefinite as to the functions of councils, some teachers "hesitate to call busy men together" for council meetings or call them so infrequently that they might as well not have councils at all. Some teachers are too independent to work with councils; some consider it a sign of weakness to ask advice; some regard a council as a group of "yes" men whose purpose it is to approve and support plans the teacher already has made; and some teachers cannot stay in the background and keep quiet long enough to give council members a chance to function.

The little that has been taught teachers about the use of councils seems, on the basis of this experience, to have been wrong. The often-recommended councils of three to five members are altogether too small. A general council for a department should have nine to 12 members. The use of so-called "key farmers" is usually disastrous since these are the men who run the community and they may give the council only a little of the time left after performing other community functions. Persons like the county agent and the county superintendent of schools should not constitute the council; instead, they should be barred from council membership but invited to sit with the council men when their presence is required. Councils should be made up of laymen, not salaried public employees.

While recognizing that some variations may be necessary from community to community, the following general principles nearly always are valid in the management of councils:

**1.** Provide nine or more members. Rotate membership after second year so that one-third of the members are replaced each year. One cannot get a representative council even in a small community if it has fewer than nine members. Neighborhood councils for conducting adult classes may have membership as small as five to seven.

**2.** Have the members of the council nominated by the teacher and the superintendent or principal and chosen by the board of education. Have one or two board members chosen to sit regularly with the council.

**3.** Make the council truly representative of all elements in the community concerned in any way with the work of the agriculture department. Bring no one in as a representative of any community group, but choose individuals for their own worth and for their public spirit, who collectively are in sympathetic touch with all of the people in the community. Some of the respects in which council should be representative are the following: Geographic distribution; persons associated with the various organizations of farmers and persons affiliated with no farmers' organizations if there is a considerable group of unorganized farmers in the community; persons of various religions; landlords and tenants; large and small farmers, acreage and part-time farmers; livestock, grain, truck, and fruit

Fisher Community H. S. advisory council for vocational agriculture

farmers; persons from town and country; men and women; age. (It is especially bad to get together a council of old men. Best council members have been under 30 years, but a council of men under 30 would not be representative.)

A general council with diversified interests may well be supplemented by special councils or committees each made up of like-minded persons interested in accomplishing a particular purpose, such as a group of poultry men interested in an adult farmer class in egg production.

**4.** Hold at least six council meetings a year, each meeting lasting no more than two hours.

**5.** Have a chairman and a secretary chosen from the group.

**6.** Keep minutes and circulate them among the members.

**7.** Arrange for the superintendent or principal to meet regularly with the council.

**8.** Use the council for such purposes as: Evaluation, with the assistance of professional people; studying the community situation and determining community needs; sponsoring adult classes and organizing subsidiary councils to sponsor adult classes; clarifying the relationships of the agriculture department with community agricultural organizations and institutions; acting as an advisory council for the FFA; encouraging high school farming programs; advising with regard to the high school course of study; adapting the program of the department to emergencies such as wars and depressions; explaining the program of the department to the general public and relaying public criticism back to the department; maintaining a continuous program when teachers and principals change; educating the principal in agricultural affairs and acquainting him with his farm constituency; correcting the teacher's blind spots, giving him encouragement and support, accepting "the buck" when it is desirable for the teacher to pass it, helping the teacher to meet and to work with those whom he needs to know.

**9.** In starting a new council, have the members visit a meeting of an established and successful council. Let the council, early in its life, make real decisions and carry them out successfully. Have an agenda for each meeting with the discussion centering about one topic, and see that each member leaves each meeting with a sense that something has been accomplished. Impress upon council members that the council is a creature of the board of education, that it is an advisory body and that its decisions may be over-ruled. (In practice this hardly ever happens.)

**10.** During the first year, meetings of 17 different types may be held:

Meetings to discuss the role of the agriculture department in the community with discussion of questions such as: What is our agriculture department for? How good is it? How many people is it reaching with systematic instruction? What territory should it serve? How many people and what people within that territory should it serve? How can it serve them?

Meetings to discuss the community agricultural situation, the principal needs of the farm people, and the efficiency of the community's farmers. It is practical for a teacher to make a list of the things he wants to know about the community and to spend an evening having the council members indicate their opinion of the situation in each respect. For example: What percentage of land has been tested for acidity? What percentage of dairy cows are on test? What is the average yield of oats?

Meetings to plan the adult program for the year. One meeting may deal with young farmer and veteran education, another with schools for older adults. If adult programs are started time will have to be devoted to them later on in council meetings.

A meeting to consider prospective agricultural opportunities in the community and the guidance which should be given high school boys and young farmers regarding their choice of occupations.

One meeting with the FFA chapter and another with the FFA executive committee.

A trip to the home farms of representative high school boys to observe their farming programs.

A meeting to discuss boys' farming programs.

Meetings with Farm Bureau and Agricultural Extension leaders; with officers of the Soil Conservation District; with local representatives of the Farm Security Administration, the Farm Credit Administration, the Rural Electrification Administration.

A meeting on buildings and facilities for the agricultural department, especially if improvement is needed.

Meetings devoted to particular projects, such as sow testing and cow testing.

Annual meeting devoted to evaluation of the year's work.

An annual meeting for planning the program for the coming year.

An annual social meeting for members and families.

An annual meeting with the board of education.

How do council members react to service on a council? Do they think it is worth while?

Illinois' experience has been that the more active the council, the more satisfied are the members. One young member said that serving on the council had been the most important thing that had happened to him in his community life.

From these experiences with councils, certain conclusions can be reached.

Advisory councils, rightly used, are among the most useful devices in agricultural education.

A central council and subsidiary councils are needed in most communities.

Teachers must be specially trained for it if they are to use councils well. Contacts with good councils should be part of their practice teaching experience.

Councils are not only excellent devices for guiding and sponsoring the activities of an agricultural department; they are the teacher's best adult classes in that the members learn much from participation in them. This is one reason for rotating membership.

Through use of councils, laymen can learn to think in terms of education and school men can learn to express themselves in terms laymen understand.

Use of advisory councils should not be confined to agriculture departments. Other departments and divisions of our schools could well use them. In the advisory council there is a more fruitful approach to public relations than those most schools are using.

**Excerpt from 1947 Industrial Arts Awards rules booklet, "Classifications and Prizes:"**

*Wood*

Any project in which the major material is wood. Note, however, Classification 6, Model Making. Models also may be made of wood. Normally, entries in this Classification will be trays, boxes, bowls, lamps, small furniture and furnishings, etc. Each project should be finished with materials and procedures appropriate for that type of project. 48 prizes, 48 honorable mention certificates.

**W1.** *Carving:*

Any wood article which features a carved design. The entire project must be the work of the student. Commercially made components are unacceptable. Prizes for groups I, II, III: 1st, Delta-Milwaukee Lathe; 2nd, Delta Milwaukee Circular Saw; 3rd, Delta-Milwaukee Scroll Saw; 4th, 5th, 6th, Delta-Milwaukee Buffer and Grinding Head; 6 honorable mentions.

**W2.** *Furniture Making:*

Any small piece of furniture or accessory used in the home. Prizes for groups I, II, III: 1st, Delta-Milwaukee Lathe; 2nd, Delta-Milwaukee Circular Saw; 3rd, Delta-Milwaukee Scroll Saw; 4th, 5th, 6th, Delta-Milwaukee Buffer and Grinding Head; 6 honorable mentions.

**W3.** *Pattern Making:*

Any pattern made for casting any metal. Drawings or blueprints should accompany entry. Prizes for groups II and III only: 1st, Delta-Milwaukee Lathe; 2nd, Delta-Milwaukee Circular Saw; 3rd, Delta-Milwaukee Scroll Saw; 4th, 5th, 6th, Delta-Milwaukee Buffer and Grinding Head; 6 honorable mentions.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★ 8 Delta Circular Saws
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★ 24 Delta Buffer and Grinding Heads

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There is a place in this competition for students of the seventh, eighth, ninth, tenth, eleventh, and twelfth grades. Any project in which the major material is wood may be entered. There are no entry fees or charges of any kind.

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**AVA members will find many historic buildings, modern vocational schools, and points of interest, in touring St. Louis**

# St. Louis Welcomes the AVA

## December 4—7

IT was on the evening of February 14, 1764, that a little band of French pioneers first landed on the west bank of the Mississippi River, at what is now the foot of Walnut Street in St. Louis. For many days, patiently fighting the current, they had poled and dragged their heavy craft up the great river from Fort DeChartres, 60 miles below. Wearied by their labors, they slept that night on their boat. Like the landing of the Pilgrim Fathers, the coming of this "First Thirty," as they became known in Colonial days, proved a milestone which marked the beginning of an empire.

One hundred and eighty-two years later, on December 4, 1946, another band of pilgrims will meet on the west bank of the "Father of Waters" to open the 40th annual vocational convention.

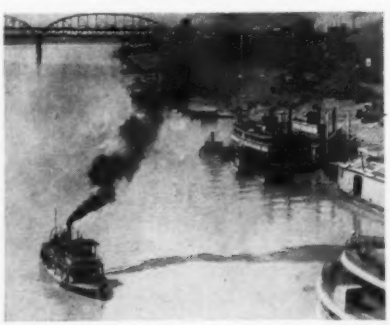
The building of this great Middle Western Metropolis was started on the morning of February 18, 1764, when August Chouteau, leader of the "First Thirty" led his men across the sandy beach and up the plateau overlooking the river, pointing out to them a line of blazed trees. The ringing blows of axes soon sounded through the woods, and the building of St. Louis began.

Those were indeed pioneer days, days when three European powers, England, France, and Spain, contended for a continent. Other expeditions, French and Spanish, soon sought to overshadow the little settlement of St. Louis. But so well had the site been chosen and so energetically had the Founders labored that those competitive efforts gradually merged with St. Louis itself.

Each year thereafter saw the city's radius of influence lengthen; St. Louis became the gateway of the stream of migration, the starting point of expeditions in all directions. Some were military, to establish forts; some scientific to explore and to exploit; more were to establish communities to open commercial avenues. The Lewis and Clark Expedition in 1804, opening the Northwest, was one of these.

So, too, the Frenchmen of St. Louis paved the way for the American occupation of Louisiana. A branch of the Chouteaus started Kansas City. Robidoux of St. Louis established St. Joseph.

St. Louis today, one of the most modern commercial cities in America, still has its background of more than a century of historical events. No visitor in St. Louis is ever at a loss what to do or what to see. Members of the American Vocational Association who visit St. Louis next December will enjoy seeing the Art Museum, Cahokia Mounds, Chain of Rocks Park, the Confederate Memorial, the Dent House, Eads Bridge, Forest Park, Grant's Log Cabin, Jefferson Memorial, the Old Court House, "Ol' Man River," Shaw's Garden, St. Louis Municipal Airport, Zoological Gardens, the vocational and technical schools, and many other outstanding attractions.



**Ol' Man River has been an important and ever-present force in St. Louis history**

The success of the annual meeting of the American Vocational Association is largely dependent upon the provisions offered by the city of its choice; the facilities for meeting places, location, accessibility (by rail, air, and bus), hotels, and most important, supervision by hosts who are convention-minded. "Provision is the foundation of hospitality," and St. Louis has everything for the comfort of its guests. The spirit of St. Louis is a spirit of friendliness. The people, the city fathers, the clubs, the merchants, the airlines, the railroad men are all genuinely gracious in their reception of the convention visitor, who is not a stranger in their midst but a guest to whom is given the very best that a great city can provide.

The subtle art of making people feel at home is the studied concern of St. Louis hotels, backed by one of the best hotel associations in the country. Reasonable rates, spacious lobbies, banquet halls and good food, with excellent service, supports the truth of the axiom that "provision is the foundation of hospitality."

Geographically speaking, St. Louis meets you halfway, and hospitably speaking, St. Louis goes the whole way. The vocational education leadership of the Great Mid-West from Minnesota to Texas and from the Alleghenies to the Rockies eagerly awaits the coming of the AVA to St. Louis in December.

Submitted by
*L. H. DENNIS*
Executive Secretary, AVA

By **RUBY CORDER**
Agricultural Education Service
U. S. Office of Education

# *NFA Reports for the Record*

## South Benefits From Continued Work for Improved Farm Life

**Dr. William Pickens (right), U. S. Treasury, presents Ollie C. Hines, NFA past-president, with a citation for work of organization in selling war bonds and stamps**

PRIOR to the annual convention of the New Farmers of America, State NFA associations sent to the national office their annual reports which were compiled into the final report for the year ending June 30, 1946.

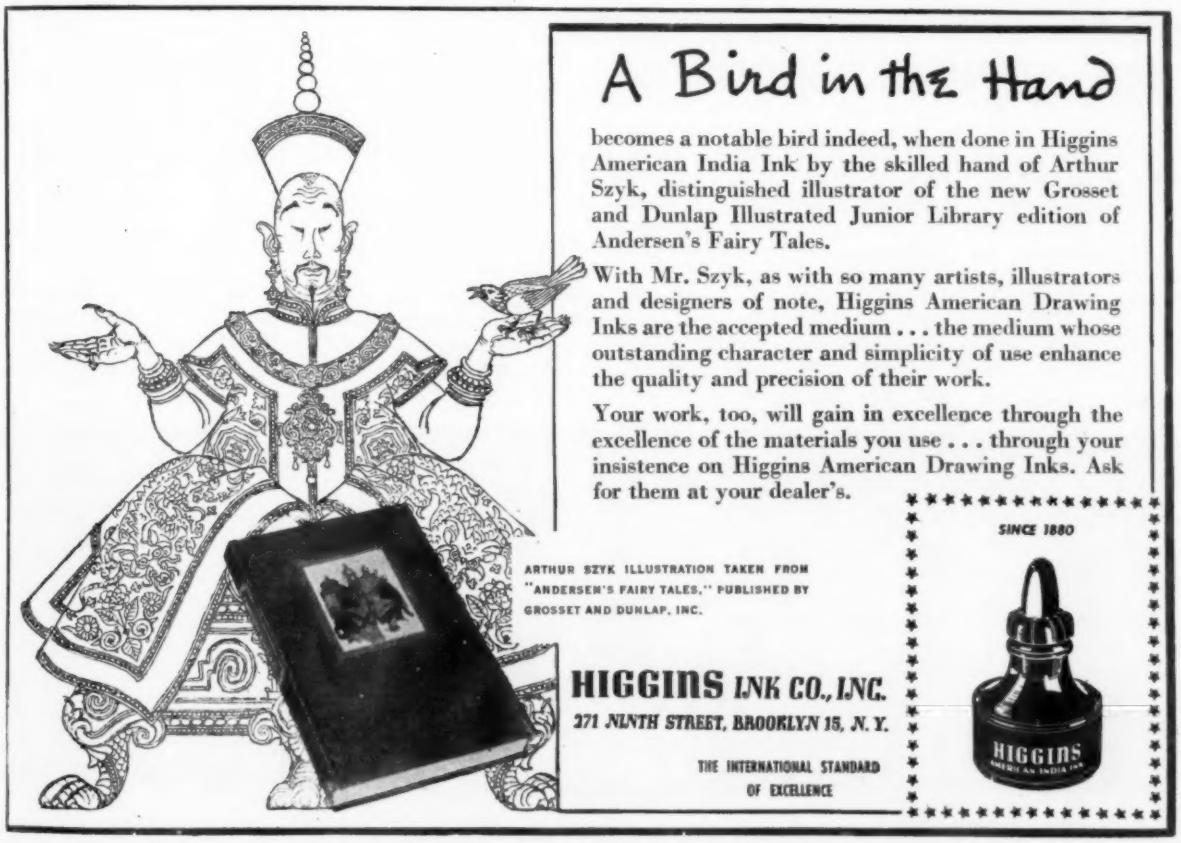
There now are 842 active local NFA chapters, 22,158 active and a total of 25,551 associate and honorary NFA members. All except 65 Negro departments of vocational agriculture in the 16 member states have active local NFA chapters. There are 14,337 boys holding the Farm Hand Degree; 6,267, Improved Farmer Degree; 430, Modern Farmer Degree; and 32, Superior Farmer Degree. There are 16,582 members who served in the Armed Forces, and attached to the state reports were stories of outstanding wartime accomplishments of members on the home and war fronts. For example, from Florida came the story of Pfc. Eddie L. Johnson, Wildwood, who served in the Second Platoon of the all-Negro Third Marine Ammunition Company which received a commendation for meritorious action in making an amphibious landing on a Japanese-held peninsula. Pfc. Johnson was awarded the Bronze Star and later the Purple Heart for his service in this action.

Boys who remained at home purchased war bonds and stamps of $501,580.77 maturity value and sold $500,692.95 in bonds and stamps. They collected 2,707,711 pounds of vital war material, grew 38,508 Victory gardens (acreage 12,670), and produced and preserved food for America and her allies. Today the chief objective is continued food production to help avert famine.

All NFA members gained cooperative experience in organized chapter projects such as soil conservation, home improvement, and cooperative buying and selling of agricultural commodities.

Eleven states provided leadership training schools and conferences. Some state associations issue regular publications and a few chapters issue newssheets. Forty-eight radio programs were prepared and given

*(Continued on page 35)*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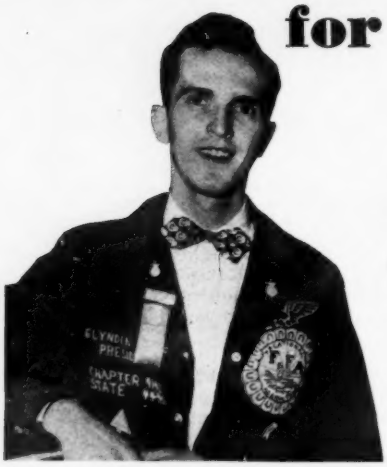
# Victory Convention for Future Farmers of America

By WILLIAM J. HUFF
Director of Public Relations and Information, FFA



J. Glyndon Stuff, national president of the FFA, will preside at the convention

FIFTEEN THOUSAND farm boys from every state in the union, Puerto Rico, and Hawaii will converge on Kansas City, Missouri, for the National Victory Convention of the Future Farmers of America, October 21-24.

The convention will be held at the same time as the American Royal Livestock Show, with the boys taking an active part in the show on the officially designated FFA Day, October 22. The program that day will feature a parade of FFA members to the show arena and the presentation of the "Star Farmer Awards," made to the four top-ranking young farmers in the country this year.

Highlights of the four-day convention will include the Public Speaking Contest, in which a national winner will be chosen from entries from the four regions; the presentation of American Farmer Degrees conferred upon the outstanding boys in the field of agriculture during the past year; and the designation of the Star American Farmer, chosen the best young farmer in the country. A number of adult leaders in the field of agriculture will receive the honorary American Farmer Degree.

With 100-piece FFA brass bands from Pennsylvania and Utah, an FFA chorus of 125 from Wisconsin, a string band from Mississippi, and a rhumba band from Puerto Rico, the entertainment program for the convention is the most extensive ever planned. Many local chapters and state associations will be represented on the talent night program and in the Victory Pageant.

Tentative plans for additional entertainment include the appearance of Edgar Bergen with Charlie McCarthy and the Fred Waring organization with a new FFA march written for the occasion by Waring.

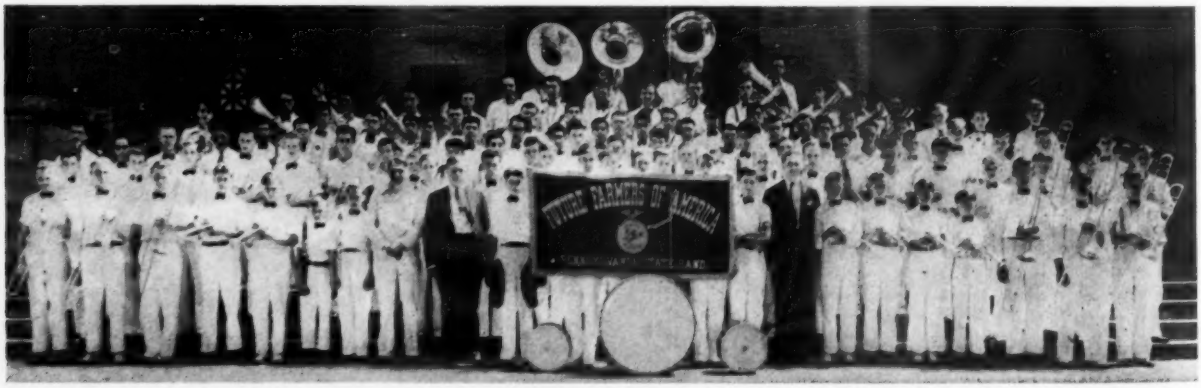
The closing session of the convention will feature the election of boy officers who will conduct the affairs of the national organization during the coming year, and the annual dinner given by the Kansas City Chamber of Commerce in recognition of the leading role the FFA holds in the nation's agriculture.

In addition to the scheduled program, the boys will go on specially planned tours through the stockyards, slaughter houses, industrial plants, and commercial concerns. All of the facilities of Kansas City will be open to them during the meeting, for the FFA convention has become an annual institution at Kansas City.

International Harvester Co. president John L. McCaffrey, a convention speaker

Many prominent people in industry, agriculture, and government have accepted invitations to attend. Visiting the White House in January, the boys of the FFA invited President Truman, who assured them that he would attend if possible.

J. L. McCaffrey, president of International Harvester Company, will be the feature speaker of the program. Others who will be present include Victor Emanuel, Chairman of the Board, The Aviation Corporation; Russell Firestone, president, Firestone Tire & Rubber Company; Roger Kyes, president, The Ferguson Foundation; J. C. Penny, president, J. C. Penny Company; W. L. Clark, vice president, J. I. Case Company; Ralph Budd, president, Burlington Lines; Robert Reed, editor, *Country Gentleman;* and Wheeler McMillen, editor, *Farm Journal.*



Pennsylvania's 100-piece FFA Brass Band is one of the many entertainment features planned for the Kansas City convention

### • Purebred Duroc-Jersey For Voc-Ag Student

During the past year the agriculture committee of the Perham, Minnesota, Chamber of Commerce decided to award a purebred Duroc-Jersey gilt to the outstanding vocational agriculture student in Perham High School.

During midwinter the local instructor in vocational agriculture approached the Chamber of Commerce with the idea of sponsoring such an award. The businessmen felt that it was an excellent chance for them to show their appreciation for the agricultural trade in the community, and to help some student. Such an award builds up enthusiasm in the agriculture class as all students are naturally interested in obtaining a purebred animal. It also helps to promote the growing of good livestock in the community. The award was given on the night of the annual parent-son banquet, with Eldon Senske, high school senior, the recipient.

The Chamber of Commerce has indicated that in the future a purebred calf and gilts of the different breeds will be awarded. The Chamber reserves the right to buy one gilt from each new litter farrowed by award pigs, for distribution in the coming years.—*Elwood Gilbertson, Teacher of Vocational Agriculture, Perham, Minnesota.*

Elwood Gilbertson

### • Student Teachers Learn To Operate Projectors

Prospective teachers at Louisiana Tech are trained to operate motion picture, film strip, opaque, and lantern slide projectors.

Louisiana State Department of Education is adding hundreds of educational films to its five college libraries for loan to schools free of charge, and large numbers of high schools are being equipped with projectors.

Robert M. Mount is director of the Visual Education Department at Louisiana Tech. Student teachers receive actual practice in other college classes.

### • Vocational Educators and Health Workers 'Team Up'

As a service to employers and personnel in the restaurant and general food field, a special instructor was added to the Louisiana State Department of Education distributive education staff in November, 1945. Working in collaboration with the State Department of Health, which furnishes an instructor for Food Handlers Schools, the distributive education instructor conducts classes for restaurant personnel, as well as supervisors, managers, and owners of restaurants. The Food Handlers Schools are conducted during a three-day period; follow-up of instruction is carried on by the distributive education instructor with members of the classes in their own places of employment.

Training for supervisory personnel has been limited to job instruction training, but plans call for such courses as human-relations training, how to supervise employees, and modernization clinics. Instruction for the restaurant personnel includes vocational aspects of the jobs of sales personnel, control of expense factors, health and sanitation, elimination of health hazards.

Since January 1, 1946, approximately 3,000 persons have been enrolled in classes in 30 centers. About 40 per cent of those enrolled were Negroes.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New, step-by-step approach covering all phases. Special sections on trouble-shooting. Latest practices. A correlated film bibliography. Text edition, $3.60

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## • Veterans Learn Welding

War veterans, swapping a uniform for a welder's mask, are learning welding at the McFarland Trade School, which is operated by the Coffeyville, Kansas, public school system. The school offers a 36-week course to prepare returned G.I.'s to meet job competition. The group here posed for their picture during a demonstration of welding techniques by Lincoln Electric Company experts.

World War II veterans are trained at McFarland Trade School, Coffeyville, Kansas

## • Instructional Materials Developed for Apprentices

An increase in the number of occupations in which apprentices are employed, and in the number of apprentices engaged in this training program, has necessitated more effective instruction in the supplementary training given in the public school vocational classes. The situation has been intensified in California by the large number of veterans enrolling in apprenticeships. The maturity and experience of these older trainees requires more advanced instruction.

To meet the situation, the California State Legislature made available to the State Board for Vocational Education $75,000 for developing organized instructional units for training apprenticed veterans during their school attendance. The appropriation and the program has the support of the California State Apprenticeship Council, state and local employer and employee groups, and veterans organizations.

This fall instructional materials were available for training in eight apprentice occupations. By the fall of 1947 it is anticipated that instructional materials will be available to all schools in the state for the supplementary training of learners in 22 trades.

Development of these instructional materials is based on methods in use in existing apprentice classes, and in the teacher training courses.

Plans are being made to prepare related instructional materials in the fields of business, distributive, and agricultural education.—*Julian A. McPhee, State Director of Vocational Education, California.*

## • Printing May Consider Shorter Apprenticeships

"Printing and Education are Inseparable" was stressed in nearly every address given at the annual conference on Printing Education, in Philadelphia, under the auspices of the National Graphic Arts Education Association.

The industry keynote was sounded by James F. Newcomb, president of Printing Industry of America, Inc. An educational program second to none in the entire field of American industry has been carried on in the past, and a vigorous veterans training program is now under way, with plans for a long-range program developing.

Other speakers discussed phases of printing education, among them the cooperative training plan, and shorter apprenticeship periods.

Byron G. Culver, Rochester, N. Y., was elected president for 1946-47; George J. Bilsey, Cleveland, O., vice president; Walter E. Brock, San Francisco, Cal., secretary; Vincent C. Coyne, New Brunswick, N. J., treasurer; Fred J. Hartman, Washington, D.C., educational director.

## • Mississippi Sends Cattle to Greece

Two shiploads of cattle, approximately 1,680 animals, have been sent to Greece from Mississippi, to reestablish herds there as part of the famine relief campaign. Vocational agriculture teachers and students cooperated in the project.

William H. Morgan, president of the Mississippi FFA, was one of the FFA and 4-H Club boys who were selected as attendants on the Ship Hattiesburg which landed in Greece August 7. Another ship, the Calvin, was to land the following week. B. M. Trapp, teacher of vocational agriculture at Duck Hill, Mississippi, and vice president of the Mississippi Vocational Association, was in charge of the 30 boys who were attendants on this ship.

The Rural Life Council of Mississippi sponsored the project, working with UNRRA representatives, who assumed responsibility for loading and shipping the cattle.—*A. P. Fatheree, Mississippi State Supervisor of Vocational Agriculture.*

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## • More Apprentices For Building Trades

Development of skilled workers for the building trades, now needed for the National Housing Program, is being advanced by granting credit for previous work experience toward completion of the term of apprenticeship, and by local liberalization of the ratios of apprentices to journeymen, according to L. B. Schwellenbach, Secretary of Labor.

A study was made by the Apprentice Training Service of the Department of Labor of more than 1,000 former servicemen, selected at random, who have been employed as apprentices in crafts of the building industry since V-J Day. It indicated that credit for previous work experience was given to about 28 per cent of apprentices who have been employed in the building trades in recent months, and one out of every five veteran-apprentices was given credit for experience in the Armed Services.

As new registrations of apprentices show almost 90 per cent veterans, it appears that the percentage of all recently employed apprentices being given this credit is about the same as that covered by the study.

Reports being received by the Apprentice Training Service show that the ratios of apprentices to journeymen are being liberalized in many areas, Duluth, Minn., and Wichita, Kansas, being notable examples.

Another project to develop more craftsmen for the housing program is showing good results in Minneapolis and St. Paul. About 30 apprentices have been employed in the carpentry trade every two weeks in these cities and the Twin City Joint Apprenticeship Committee for the carpentry trade announced it will continue to hire apprentices at that rate until it has 400 carpenter apprentices which it considers sufficient for the immediate future.

## • Industrial Arts Forums On Lessons of the War

For the 16th year, industrial arts forums were held at Ohio State University during the past summer. The general theme was "Lessons of the War for Education," and the following subjects were considered at 10 separate evening sessions of two hours each:

Individual reports of war service in industry, uniform, education, or governmental agencies.

Role of the Technical School, a presentation of the Army's Refresher School at Wharton, Lancashire, England.

Technical training in the Armed Forces; implications of experiences in the Army, Navy, Air Force.

Education of the Veteran: views by Federal, State, and university officials; the G. I. bill; programs in industry, in public and private schools; trends, costs, results.

Education, a question of national destiny, broadcast over WOSU.

Reeducation of the Axis nations: Italy, Germany, Japan.

Newly developed materials and processes of industry; presentations by representatives of OSU research foundation and the Battelle Institute.

Examples of interesting cultures from around the world: Europe, Africa, Asia, the Pacific.

Technical education or training in other lands: England, Germany, the primitive peoples.

Digest of MA and PhD theses; the annual evening on research.—*William E. Warner, Professor of Education, OSU.*

## • Dr. Keller to Germany

Dr. Franklin J. Keller, principal of Metropolitan Vocational High School, New York City, has been granted a year's absence to head the Vocational and Technical Division, Educational and Religious Affairs Branch, Office of Military Government for Germany, with headquarters in Berlin and duties covering the entire American Zone.

Maj. Gen. O. P. Echols, director of the Civil Affairs Division, paid high tribute to Dr. Keller: "In the field of Vocational and Technical Education, no one has been discovered who, in my opinion, could make such an outstanding contribution. . . ."

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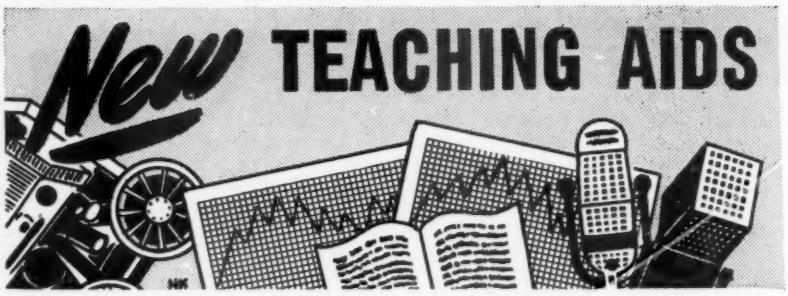


### FILMS

*Bathing Time for Baby.* 16mm. sound, 13 minutes. Walt Disney Production, free for educational showing from Johnson & Johnson, New Brunswick, N. J.

Bath instruction leaflets also supplied free to those who attend showings. Approved by Children's Bureau, U. S. Labor Department and Visiting Nurse Service, New York City.

*Basic Typing: Machine Operation.* 50 min. Rental from Association Films, 347 Madison Ave., New York.

Demonstrates typing at different speeds; shows use of alignment scale, type guide, line space, etc. Also available are *Basic Typing: Methods* and *Machine Transcription: Machine Operation.*

*The Gentle Art of Meat Cookery.* 3 reels. Free. Association Films, 347 Madison Ave., New York.

The ABC's of roasting, broiling, braising, stewing and carving meat, including discoveries from controlled experiments.

*Safety in the Shop.* 1 reel, rental from Association Films, 347 Madison Ave., New York.

Dramatizes typical shop accidents and shows importance of supervision and training in correct practices.

*The Building of a Tire.* 3 reels in color; free, from Association Films, 347 Madison Ave., New York.

Walt Disney diagrammatic sketches combined with actual plantation, mill, and factory scenes.

*Educators Guide to Free Films.* Educators Progress Service, Randolph, Wis., sixth annual edition. $4.00.

Reprints of the article, *Some Case Illustrations of the Use of Free Films* by Dr. John Guy Fowlkes, free.

*Radiant Lamp Guide for Projection Equipment.* Radiant Lamp Corp., Newark 8, N. J. Free.

Guide to selection of the correct lamp for every type and make of projection equipment now in use.

*Photography.* 1 reel, rental, from Association Films, 347 Madison Ave., New York.

Photography as a vocation, including portrait, commercial, news, illustrative, etc.

*Working on Air.* 2 reels, free, from Association Films, 347 Madison Ave., New York.

Development of the airplane propeller, manufacture and function of controllable pitch and constant speed propeller.

*The Case Against Shrinkage.* 35mm "talkie" slide film. Visual Training Division, Syndicate Store Merchandiser, Inc., 79 Madison Ave., New York 16.

Cartooned characters and a plot show where store's lost profits go.

*Freezing Fruits and Vegetables.* 16 minutes, 2 reels, U. S. Department of Agriculture. Picture for purchase from Castle Films, 30 Rockefeller Plaza, New York 20.

Shows newest and best methods of home freezing. Also discussion pamphlets.

### BOOKS

#### Guidance

*This Way Up,* by L. E. Frailey. American Technical Society, Chicago, 1946. 229 pages.

A readable guide to job success which includes job selection and job hunting information.

#### Home Economics

*Clothes With Character,* by Hazel T. Craig and Ola Day Rush. D. C. Heath & Co., Boston, 1946. 277 pages. $1.68. (Revised Edition. Includes Charm Chart.)

Helps high school girls in diagnosing own dress problems and developing personality through dress.

#### Industrial

*General Woodworking,* by Wm. H. Johnson and Louis V. Newkirk. The Macmillan Company, New York, 1946. 283 pages, $2.00.

A pupil text on general woodworking, well illustrated.

*Elements of Practical Radio Mechanics,* by Samuel L. Marshall. Current Books, Inc., 67 W. 44th St., New


## APTITUDE TESTS

***Specific Trade Tests — Standardized***

**Discover your students' talents, aptitudes, abilities and limitations.**

**Aptitude Testing Laboratories**

**130 W. 42nd St. New York 18, N Y.**

York, 1946. 227 pages. Paper, $1.75; cloth, $2.50.

Intended for the vocational education field.

*Educating for Industry Thru Apprenticeship*, by William F. Patterson and Marion H. Hedges. Prentice-Hall, Inc., New York, 1946. 229 pages. $2.50.

Points out management's stake in apprenticeship in training men in the production trades and technical occupations, and labor's relation to apprenticeship through committees.

*Aircraft Drafting*, by Hyman H. Katz. The Macmillan Company, New York, 1946. 386 pages, $5.00.

Gives basic engineering drawing techniques, fundamentals of aircraft design, engineering procedures used in the industry, and problems, materials, and methods of aircraft production which draftsmen should know.

### PAPER COVERS

*Occupational Briefs, America's Major Job Fields.* Science Research Associates, 228 S. Wabash Ave., Chicago 4, Ill. 4 pages each 15¢ per copy.

No. 124, Frozen Foods Workers; No. 125, Oil and Gas Well Workers; No. 126, Petroleum Refinery Workers; No. 127, Police; No. 128, Messengers and Porters; No. 134, Typesetters and Printers; No. 135, Lawyers; No. 136, Firemen; No. 137, Photo Engravers and Lithographers; No. 138, Road Builders; No. 129, Advertising Workers; No. 130, Actors and Actresses; No. 131, Musicians; No. 132, Artists; No. 133, Instrument Workers; No. 140, Bank Workers; No. 141 Insurance Workers; No. 142, Real Estate Agents; No. 143, Department Store Workers; No. 146, Bakers; No. 149, Pottery Workers; No. 150, Fishermen.

*Unions and Veterans.* Public Affairs Press, 2153 Florida Ave., Washington, D. C.

*Using Standards and Labels.* Consumer Education Study, National Association of Secondary-School Principals, 1201 16th St., N.W., Washington, D. C. 25¢ per copy, discounts in quantity.

*Advertising as a Career.* Mark O'Dea. Printers Ink Publishing Co., 203 E. 42nd St., New York 17, N. Y. 50¢.

*How to Cut Food Costs.* New York State Restaurant Association, 369 Lexington Ave., New York 17, N. Y.

*Annual Report of the Federal Security Agency, Section II.* U. S. Office of Education. Order from Superintendent of Documents, Washington, D. C. 15¢.

*General Plastics.* Raymond Cherry. McKnight & McKnight, Bloomington, Ill., 1946.

Concise and comprehensive related information, fundamental operations, instructions for making projects.

## NFA Reports for the Records

*(Continued from page 29)*

during the year. Ten state associations paid expenses of boy officers who visited local chapters. In three states, local chapters shared the travel expense of NFA officers who participated in their programs. Local chapters sent delegates and contestants to state conventions and sectional contests. Eighty per cent of the chapters used accepted parliamentary procedure and official ceremonies in conducting chapter meetings and nearly all chapters meet regularly with year-round attendance of 75 per cent.

Active members now have $293,889.81 actually invested in farming; 8,119 increased the size of their farming programs this year; 6,770 used improved livestock practices; 10,420 used improved crop production practices; 3,312 engaged in organized livestock loss prevention work; 10,673 repaired farm machinery; 5,656 repaired buildings.

These farm boys make farming pay. Thrift practices are carried on by 7,111 members and 463 chapters acting as groups.


# NEW WILEY BOOKS

*A Complete, Practical Explanation of Modern Operating Principles*

## AIRCRAFT CARBURETION

By ROBERT H. THORNER

*Development Engineer, formerly with the Holley Carburetor Company*

Clear in its explanations, complete in its coverage of the fundamentals, this up-to-date book offers the information necessary for a thorough understanding of the principles, flight operation, and testing procedures of aircraft carburetors.

Devoted entirely to the principles of aircraft carburetion, the book is thoroughly practical in its approach, treating the carburetor as an integral part of the aircraft power plant. It omits distracting problems of maintenance and overhaul, dealing with all phases of the operating principles and interrelating them to provide a comprehensive picture of modern aircraft carburetion. In addition to clearly explaining the fundamental principles, AIRCRAFT CARBURETION also uses modern carburetors to illustrate them, and compares these carburetors, system by system. In this manner, it shows how the same basic principles apply to all aircraft carburetors. The book contains many illustrative diagrams, charts, graphs and photographs.

Contents: Principles of Physics That Apply to Carburetion; Basic Carburetion; Introduction to Diaphragm Carburetors; Holley Carburetors; Bendix-Stromberg Injection Carburetors; Chandler-Evans Carburetor; Comparisons of Float, Holley, Stromberg and Chandler-Evans Carburetors; Testing Aircraft Carburetors; Flight Operation.

1946 — 393 Pages — $3.50

*Revised Printing of a Successful Book for Automotive Shop Classes*

## FUNDAMENTALS OF AUTOMOTIVE MECHANICS

(Formerly known as "Pre-Service Course in Automotive Mechanics")

By JAMES V. FROST

*Instructor in Automotive Trades, Brooklyn School of Automotive Trades, Brooklyn, N. Y.*

This book in its original form was successfully used in automotive-shop classes for the training of boys about to be inducted into the service. It gave them a thorough grounding in the fundamentals of construction and operation of all motor vehicles. In this revised printing the author has rewritten one chapter and redirected the objective of the book to meet more closely the needs of peacetime classes in vocational schools.

The book covers two terms' work. The content is divided into nine chapters, the first five of which are to be presented in the first term, and the remaining four in the second term. In the choice of words and in the treatment of subject matter the author has attempted to make the book understandable to all grades of high school students. The book treats the subject of automotive mechanics primarily from the theoretical standpoint. It attempts to teach the names, location, and principles of operation of the various units of a car. For the better understanding of these working principles the text delves into such simple laws of physics and chemistry as are embodied in the functioning of the automobile. With an understanding of the information herein presented students will have a working knowledge of the construction and principles of operation of all types of motor vehicles.

Contents: The Automobile Chassis, Running Gear, and Body; Power Unit; Power Train; Cooling System; Fuel System; Electrical System; Lubrication; Safety; Appendix; Glossary; Index.

Revised Printing, 1946 — 545 Pages — $2.80

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**440 Fourth Avenue** — **New York 16, N. Y.**

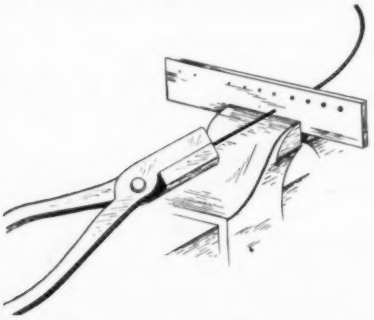
# HAVE *You* TRIED *This?*

**The AVJ solicits new ideas, shop kinks, and new teaching aids for the use of teachers in all fields of vocational and practical arts education. Send a photograph, a drawing, or a sketch with your description.**

**Help other teachers by sending your experiences to the AVJ. Two dollars will be paid for each item that is used. Send to: Managing Editor, American Vocational Journal, 220 East 42nd Street, New York 17, N. Y.**

A DEMONSTRATION that never fails to interest students, whether of junior high school age or adults doing graduate work, shows the ductility of copper by taking a piece of #14 copper wire one foot long and making it at least 20 feet long.

The wire may be a piece used for house wiring, with the insulation removed. The demonstration may be preceded by a short discussion of the meaning of the word "ductility."



*Job:* Demonstrate Ductility of Copper

*Tools:* Draw plate, draw tongs, blow torch or small gas furnace, small flat nose tongs, bench vise, mill file

*Machine:* Slip roll forming machine

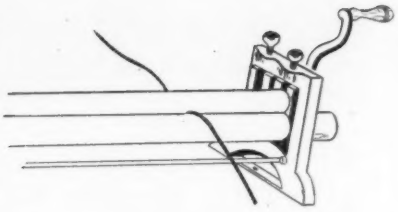
*Material:* 1 piece #14 gauge copper wire 12" long

**Procedure**

**1.** Place the draw plate securely in the vise so that the wire may be puled through it conveniently.

**2.** Select a hole in the draw plate through which the wire will have to be pulled thereby making it longer. Note: The shape of the hole does not make a great deal of difference.

**3.** File end of the copper wire to a point so that when the end is placed through the hole in the draw plate it will be possible to pull it through with draw tongs.



**4.** Anneal the copper wire by heating it red hot and cooling it in water.

**5.** Draw the wire through the selected hole in the draw plate.

**6.** Draw the wire through the next smaller hole.

**7.** Repeat step #6 until wire has been pulled through the smallest hole in the draw plate. Note: Anneal wire as necessary.

**8.** Set Slip Roll Forming Machine to thickness of the wire.

**9.** Roll the wire through the Slip Roll Forming Machine. Note: It is important to keep the wire straight as it goes between the rolls.

**10.** Repeat step #9, each time decreasing the distance between the rolls (about ½ turn on adjusting screws). Note: It will be necessary to anneal the wire after each time it is passed between the rolls. As the wire increases in length it will be easier to anneal it if it is rolled in a small coil.

The result will be a piece of flat copper wire at least 20 feet long.

*—Dewey F. Barich, Head of Department of Industrial Education, Kent State University, Ohio.*


# December will be CONVENTION ISSUE of the American Vocational Journal

• • • • • •

**From December 4th to 7th the American Vocational Association will hold its 40th annual convention in St. Louis, Mo.**

**The December issue of the AMERICAN VOCATIONAL JOURNAL will be the convention issue. It will be mailed before the end of November, reaching vocational educators before the convention opens. Copies of the issue will also be distributed to convention delegates.**

**Each year the AVA convention is the outstanding gathering in the field of vocational education. And the convention issue of the AMERICAN VOCATIONAL JOURNAL will be one of the most attractive and interesting issues of the year.**

**Advertisers will find this an ideal medium in which to tell their story to vocational and industrial arts teachers and administrators. Put your message in the December convention issue. Invite convention delegates to stop at your booth.**

**Advertising forms will close November 1st. Get your reservation in NOW.**

**• AMERICAN VOCATIONAL JOURNAL • 220 East 42nd Street, New York 17, N. Y.**

When writing advertisers please mention *American Vocational Journal.*

# Who's Who

**H. F. Hinton** has succeeded **Robert D. Dolley** as state supervisor of trade and industrial education for Florida. Mr. Dolley is in Panama as special representative of the Office of Inter-American Affairs.

Other Florida appointments include **H. E. Wood** as state supervisor of agricultural education succeeding **J. Franklin Williams, Jr.**, deceased; **T. L. Barrineau, Jr.**, to replace Mr. Wood as district supervisor; **G. C. Norman** as veterans supervisor for vocational agriculture. Three medical consultants have been added to the vocational rehabilitation service: **Dr. W. C. Blake,** Tampa; **Dr. S. Marion Salley,** Miami; and **Dr. Karl B. Hanson,** Jacksonville.

**Kenneth Q. Paddock,** formerly vocational agriculture instructor at Wallace, Ind., has been assigned as navigation and training officer of the Atlantic Division of the Air Transportation Command. He holds the Distinguished Flying Cross, Air Medal with two Oak Leaf clusters, Purple Heart, a presidential Unit Citation, and French Croix de Guerre with gold and silver stars.

**Dr. Frederick J. Kelley** has retired as chief of the Division of Higher Education, U. S. Office of Education, to become educational consultant with the American Institute of Foreign Trade, Thunderbird Field, Phoenix, Arizona.

**Dr. Sherman Dickinson,** for 22 years head of the agricultural education department, University of Missouri, has gone to Brazil as consultant and specialist in agricultural education.

**William J. Huff** has been appointed director of public relations and information for the national FFA.

Recent additions to the state vocational education staff in Oregon are **R. E. Urdahl,** supervisor of distributive education; **Marion Hess,** assistant supervisor of home economics education; **Harold Shogren,** assistant supervisor, trade and industrial education.

**Stanley J. Pawelek,** supervisor of industrial education, Division of Vocational Education, Baltimore Public Schools, served as special guest instructor at Utah State Agricultural College, Department of Industrial Education, during the past summer.

**Freeman D. Ketron,** of Terre Haute, has been added to the Indiana state rehabilitation staff.

**H. C. Givens** has retired as director of the Natchitoches Trade School, in Louisiana.

## Hotel, Restaurant Training

*(Continued from page 17)*

are persons of long-established reputations in the hotel and restaurant world who now devote entire time to training young men and women.

Present enrollment includes many veterans who during military service discovered interesting possibilities in a future devoted to commercial feeding and housing. Currently registered are a young man from Augusta, Maine, another from Honolulu, and two who made application while on active military duty in the South Pacific.

Two types of students are registered: High school graduates who are candidates for the degree of Associates in Arts as confered by the Junior College and who must submit transcripts of high school work; and special students who may be either persons already employed in the industry, or those who wish to take special training.

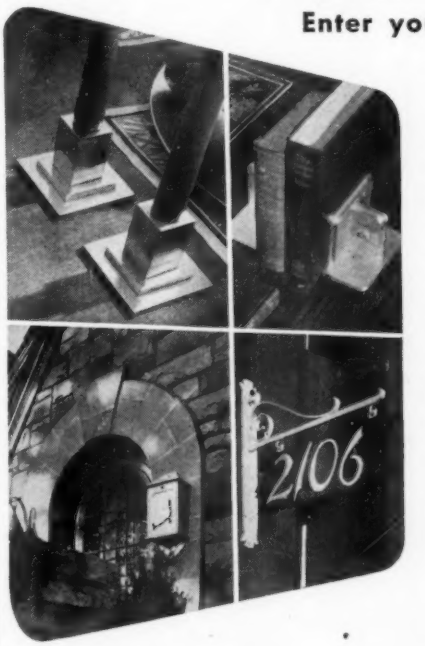
The division, now in its tenth year, is constantly expanding in scope, but always with close watch on the employment picture and under the guidance of the industry.


Calling

ALL SHOP TEACHERS!

Enter your Students in this

ALUMINUM PROJECTS COMPETITION




Your Industrial Arts students will really spark to the idea of signing them up in the Aluminum Projects Division of Scholastic Industrial Arts Awards . . . a program sponsored by Scholastic Magazine and Aluminum Company of America.

The useful and artistic articles shown here are but a few of the many that students will enjoy making. And in the making, they will be learning to work with the foremost *light metal*, aluminum. This knowledge will be useful to them when they are through school. Before that time, they can compete for the 36 cash prizes offered in this competition.

HERE ARE THE 36 PRIZES FOR ALUMINUM PROJECTS in Scholastic Industrial Arts Awards

GROUP I—Junior High Schools, First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

GROUP II—High Schools offering less than 10 hours per week. First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

GROUP III—High Schools offering more than 10 hours per week. First Prize, $50; Second Prize, $25; Third Prize, $10; nine Honorable Mentions, $5 each.

How To Get Your Boys Started

WRITE FOR THE RULES BOOKLET for Scholastic Industrial Arts Awards: Scholastic Awards, 220 E. 42nd Street, New York 17, New York.

SEND FOR THE LIST OF BOOKLETS which tell how to make things of aluminum, and a list of sources of aluminum needed for your projects. Write Aluminum Company of America, 1772 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN ALUMINUM

ALCOA

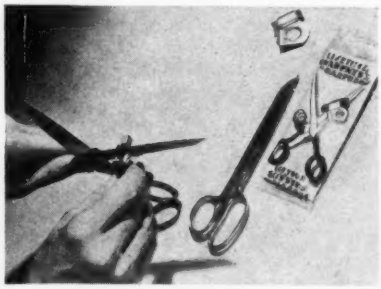
**An All-Industry Refrigeration** and Air Conditioning Exposition will be held in Cleveland, October 29-November 1. Latest developments and new products in the industry, which now performs more than 200 different services, will be exhibited. Educators and students interested are invited. **1**

**The AP Parts Corporation** have announced their entry into the hobbycraft field with a line of knives, tools, and blades under the trade name, "King Kut." Most important new feature is the bulldog-grip handle and tapered chuck which holds and locks, and then releases the 22 different cutting edges. **2**

**Park Instrument Co.** has its 1946 drafting instrument catalog available for schools. **3**

**Holub Industries, Inc.,** announces a new universal and automatic stripper for stripping a wide variety of either solid or stranded copper wires, ranging from very fine No. 22 wire up to and including No. 10. **4**

**South East Merchandise Co.** presents a foolproof, thumb-size scissors sharpener which is made in a single, stamped and nickel plated unit. The



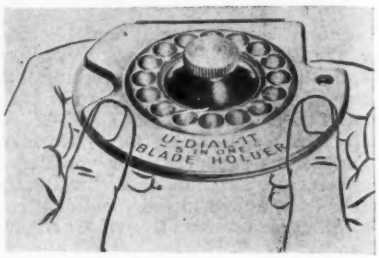
sharpener grips a Carborundum stone at an exact manufacturer's angle for producing a perfect cutting edge on dull shears and for maintaining the sharpness of new scissors. **5**

**Precision Apparatus Co., Inc.,** has produced a portable, super-sensitive multi-range A.C.-D.C. industrial circuit tester. It is designed for use in industrial, electric power, laboratory testing and analysis work, and has wide application in the fields of railroads, communications, power installations, electrical maintenance, electrical engineering and manufacturing, radio, and school laboratory work. **6**

**The Lawrence Copyfitter** condenses printer's copyfitting problems into a single instrument that can be used by printer and layman alike. Problems solved are type size and face to set a given number of characters in a given space; number and measure of lines for any number of characters and size and style of type; characters per pica of any type size and face from alphabet lengths; converts pica or elite typewritten copy to any type face and size, etc. **7**

**Regulectric** is a newly-developed A-C generator for use in engine generator sets. It is described in Electric Machinery Mfg. Co. publication No. 186. **8**

**U-Dial-It** is a blade cutter that takes care of any cutting job around the home, office, workshop, school, or camp. Five cutting positions, to be dialed, make it a scraper, slider, rip-



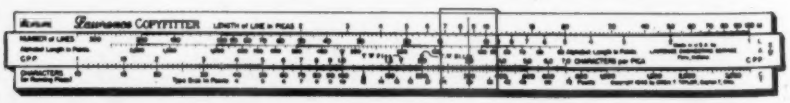

per, slipper, or trimmer and the razor blade thus can be used for cutting a multitude of things, with safety. **9**

**General Electric** has produced a new colorscope designed to show how primary colors of light can be mixed. It contains light sources which produce red, green, and blue, and the lamps can be controlled in intensity by switches like radio volume control. **10**

**Household Art Kit** is a set of textile color paints for home or institution use in hand decorating fabrics. It is being marketed by American Crayon Co. and the set includes 10 bottles of paints in various colors, stencils for

decorative designs, stencil paper for making new stencils, a stencil knife for cutting and brush for paint application. **11**

**Additional information about products mentioned in "Industry Presents" columns may be obtained by using the coupon on page 41, where please circle the number that corresponds to the one at the end of announcement in these columns.**





# SHOP BOOKS

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# The Vocational Outlook

★ Veterans Administration regional offices now have sets of manuals on small businesses, prepared by the U. S. Department of Commerce, which may be borrowed by disabled veterans planning to go into business or to take on-the-job training. Those available describe metal working, shoe repairing, small sawmill business, apparel store, automobile repair shop, retail bakery, beauty shop, dry cleaning, electrical appliance and radio shop, grocery store, hardware store, service station, painting and decorating contracting, real estate and insurance brokerage, and concrete block making. In preparation are manuals dealing with building contracting, heating and plumbing, laundry, restaurant, and variety and general merchandising.

★ A Department of Commerce booklet, *The Pattern of Expenditures for Nonfarm Residential Repair and Maintenance* records that homeowners spent two-thirds as much for repair of buildings as for new homes from 1929 to 1944. Painting is the type of work done by the largest number of home owners.

★ A permanent transparent coating for glass that successfully conducts electric current over the glass panel, has been developed by the Pittsburgh Plate Glass Company. Known as Nesa, it will eliminate aircraft windshield icing.

★ Steel output for the second quarter of 1946 was 15,593,096 tons or about 69 per cent capacity.

★ The American Theater Wing (Manhattan) has held a school for veterans returning to the entertainment field which includes an eight-week course in television. Job prospects in television, directing, acting, writing, scenic design and types of program, were included in the curriculum. There were 340 ex-professionals enrolled.

★ A study of vocational teachers' salaries is being made by the U. S. Office of Education.

★ Texas has a contract with the Veterans Administration for veterans' education in agriculture, distributive education, trade and industrial education, and family life education. Separate Veterans Vocational Schools may be established in local communities, and in other than the established school buildings. A separate veterans education staff has been provided by the State Board for Vocational Education.

★ Two Wisconsin FFA chapters, Endeavor and Montello, cooperated in a conservation program last year. More than 2,000 trees and shrubs were planted for game food and cover and approximately 750 pheasants were hatched.

★ A $38,000 advance for the preparation of plans and specifications for a junior high school in Nutley, N. J., has been approved by the Federal Works Agency. The project is estimated to cost $1,223,000.

★ A National Distribution Council has been formed by the U. S. Department of Commerce to help industry improve its distribution capacity and efficiency, and prepare for the coming buyer's market.

## "Real" Teaching

*(Continued from page 20)*

the assistance of her supervisor, selects activities that she feels will help her most in teacher growth. Many home visits are made and all have opportunity to observe and assist with out-of-school youth or adult classes.

Living in the community gives the student teacher time to get better acquainted with high school students, their parents, and homes.

Full-time is devoted to the school and community rather than time divided between being a teacher and a co-ed.

The present training program provides for a high degree of correlation between the methods courses and student teaching. In fact, the teaching situation and the needs of the student in relation to handling that situation determine the areas of study in the methods courses. The organization of the three-credit methods course taken parallel with the out-state student teaching is entirely on an individual basis. Concentrated study is done on the problems being undertaken at the time.


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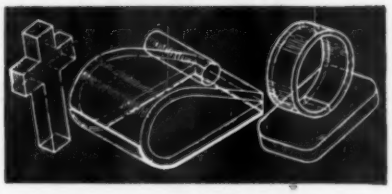

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| Beginning Mechanical Drawing—Roberts | $1.80 |
| Beginning Problems in Mechanical Drawing—Bennett | .68 |
| Learning to Read Mechanical Drawing—Bartholomew and Orr | .48 |
| Problems in Blueprint Reading—Castle | .96 |
| Machine Drafting—Snow & Russell—Cloth | 2.50 |
| Paper | 1.48 |
| Machine Drawing Problems—Berg & Ellesen Cloth $1.96 | Paper 1.24 |

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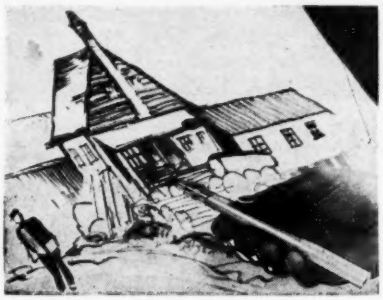

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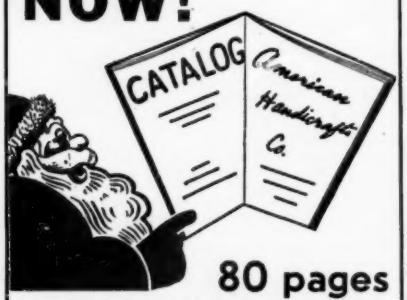


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# With the Associations

▸ New developments in Ohio farming and new methods of teaching, highlighted the program of the Annual Conference of Ohio Teachers of Vocational Agriculture at Ohio State University this year. More than 200 teachers were in attendance. Among the new methods demonstrated and discussed were use of D.D.T., forced air curing of hay and grain, farm freezer lockers, vitamins in calf feeding, artificial insemination of dairy cattle, new clover varieties and grading, packaging of poultry, and cut-out values of hogs. New officers for the coming year are: President, Edward M. Caldwell, Frankfort; vice president, R. D. Lemon, Van Wert; secretary-treasurer, C. W. Shaver, Gallipolis.

▸ Louisiana state and district officers and club advisers in FHA met at Natchitoches to plan a program of work and give training in leadership responsibilities. Committees assumed responsibility for planning a state work program, programs for meetings during the year, budgets for state and district expenditures, state and district meetings, state and district projects, revision of the constitution, state newsletters, and ways of stimulating clubs to be more active. Under the guidance of the Home Economics Division of the State Education Department and state officers, four district meetings were held last spring for all club members. Attendance totalled 2,381.

▸ The annual meeting of the Indiana Vocational Association will be held October 24, at Indianapolis. Headquarters will be in Hotel Lincoln.

▸ California Industrial Education Association held its state convention jointly with the state conference on industrial education, and planned a membership campaign for this fall. Officers of the Association this year are Jack L. Anderson, San Jose, president; M. A. Grosse, Fresno, and Sidney McGaw, Oakland, vice presidents; David F. Jackey, Los Angeles, secretary-treasurer. Retiring president Virgil Volla reported that the Executive Council members are planning action on preparation of course of study, visual aids, and teaching aids of various kinds.

▸ The Pennsylvania Vocational Association has elected the following officers: President, David R. McClay, State College; secretary-treasurer, Henry S. Brunner, State College; editor, J. G. Allen, Scotland; vice president for agriculture, Arthur V. Townsend, Bedford; for business education, Robert VonDrach, Pottstown; industrial arts, Ward L. Myers, Muncy; trade and industrial, Howard W. Mench, Beaver Falls; home economics, Mary Kilroy, Pottsville.

▸ Officers of the Tennessee Vocational Association are: President, Mabel Yates, Mt. Pleasant; vice president for agriculture, Ray Cox, Henry; home economics, Dorothy Wood, Knoxville; trade and industry, Weir Williams, Memphis; distributive, Mary Petree, Kingsport; industrial arts, O. L. Freeman. Secretary-treasurer of the Association is W. A. Seeley, state supervisor of trade and industrial education. G. E. Freeman, state director of vocational education, is advisor.

## Modern Apprentice Training

*(Continued from page 9)*

quested the co-operation of vocational education in training their apprentices. The Committee has approved a revision of related subjects courses for the railroad crafts and has appointed management and labor representatives in each proposed training center to advise with state and local vocational education authorities. The problem facing vocational education is to give service with uniform efficiency throughout the system, regardless of the state or locality in which training is conducted.

The Union Pacific General Committee has requested assistance of vocational education in developing basic related instructional material for six railroad crafts. A number of states in which the System operates are cooperating. California, Colorado, Idaho, Nebraska, Oregon, and Utah are each working on a particular craft with management and labor representatives appointed by the General Committee. The plan contemplates instructional material in small packages arranged specifically in relation to work schedules of apprentices, and an instructor's manual geared to the apprentice handbook, implementing individual instruction.

The proposed training program for the two railroads was initiated by the Apprentice-Training Service in cooperation with railroad labor and management. Other major railroads are watching these projects. Their success will no doubt mean the expansion of apprentice training for the railroad crafts and perhaps point the way for interstate training programs in other industries.

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# WHAT DO YOU THINK?

THE Federal Vocational bill which has just become law, appropriating $28,850,000 for vocational education, does not include an item of $500,000 for state supervision of industrial arts education which was originally written into the bill S. 619.

Industrial arts educators were not in complete agreement at the outset regarding the inclusion of this money in a Federal vocational bill. Some no doubt are satisfied that it was stricken out by a Congressional committee; others are disappointed.

The appropriation, if it had been retained, could have done much to knit more closely the industrial arts group. It could have provided state leadership, funds for research, and the dissemination of helpful material to workers in this field of education. It could have stimulated recruitment of good men into the profession. Industrial arts education is so vital to our educational system that there must be professionally-motivated, qualified pilots. Today's leaders must have vision for tomorrow; must provide leadership.

Industrial arts has not yet achieved the recognition to which it is entitled. Education has given lip service to its usefulness; to the broadening of the social, intellectual, and vocational well-being of all who receive its beneficence. Perhaps industrial arts needs to be glamorized or press-agented. The industrial arts teacher's services to the youth and adults in his department surely are no less helpful or satisfying to the individual than are those of the music instructor or athletic coach. He stimulates the imagination, provides motivation for creative endeavor, and makes possible the pleasurable rewards of achievement. But often he works alone. He has no "following" in the school system; no headlines publicize his achievements or those of his students; no spotlight flashes on his work, and his community often is not fully aware of the extent or the value of the industrial arts program which is available in its schools.

A united industrial arts group instead of two national groups divided over certain issues and working separately, would do much to further the development of the program in the schools, and to assist the individual instructor. Today's leaders should lend their influence to bring all industrial arts workers together into one national associated group, where all work for the best interests of their program and of education in general. There should be no misunderstandings or antagonisms between industrial arts and vocational education people, for there is no actual competition upon which it can be based. Industrial arts in many cases is a strong foundation for vocational education, and in all cases it is of high value to the individual who receives the training. Whether young students enter the field of agriculture, business, homemaking, trades and industries or the professions, a background of industrial arts provides valuable training and its worth is understood by vocational educators better, perhaps, than by any other educational group.

Industrial arts leaders should accept the deletion of their appropriation from the vocational bill as a challenge, and use it to unify their forces and their leadership. The scattered forces want guidance and desire a closely-knit and forceful unity, both on state and national levels. With such organization and purpose real assistance can be given the industrial arts teacher, and direction to his efforts to gain recognition for his program and leadership in his community. Working alone, his resources are limited to the results of his own efforts and the power of his personality. With the backing of a vigorous group, the help and guidance of a strong national program, and the prestige of an active and articulate national association, each individual worker can move forward, expand his own program, increase its influence and its service.

There are indications that industrial arts is not too far from some of its goals. There is an awakened public interest in the program, and the needs and achievements of both students and instructors are becoming better known.

The AVA is making available two new publications designed to strengthen and encourage this program. *Improving Instruction in Industrial Arts* is a bulletin prepared for teachers, supervisors, administrators, and teacher trainers, "but especially for teachers in this field. It is offered in view of the Committee's major interest—that of improving the quality of industrial arts instruction." (Statement from Part II.) A second publication, *State Supervision of Industrial Arts Education*, is free. Both are the result of much thoughtful effort, unstintingly given, by men who have spent their professional lives in industrial arts education and whose single purpose was the advancement and improvement of the program. Both bulletins are obtainable from the American Vocational Association.

Another evidence is the First National Industrial Arts Fair, which next August will bring together in dramatic setting, the best work of industrial arts students from coast to coast. "Big industry" has cooperated with Scholastic Magazines to make the Fair, with its many awards, possible and to focus the national spotlight for a moment upon this phase of the educational program. Students and teachers will find their efforts recognized by the general public, and will be stimulated and encouraged to greater endeavor.

To these and other efforts to strengthen and unify all industrial arts workers and programs, vocational educators should give every possible encouragement.

Can not the interests of education be served best if both industrial arts and vocational education strengthen their forces, work together on mutual problems, and help each other?

What do you think?

George H. Fern

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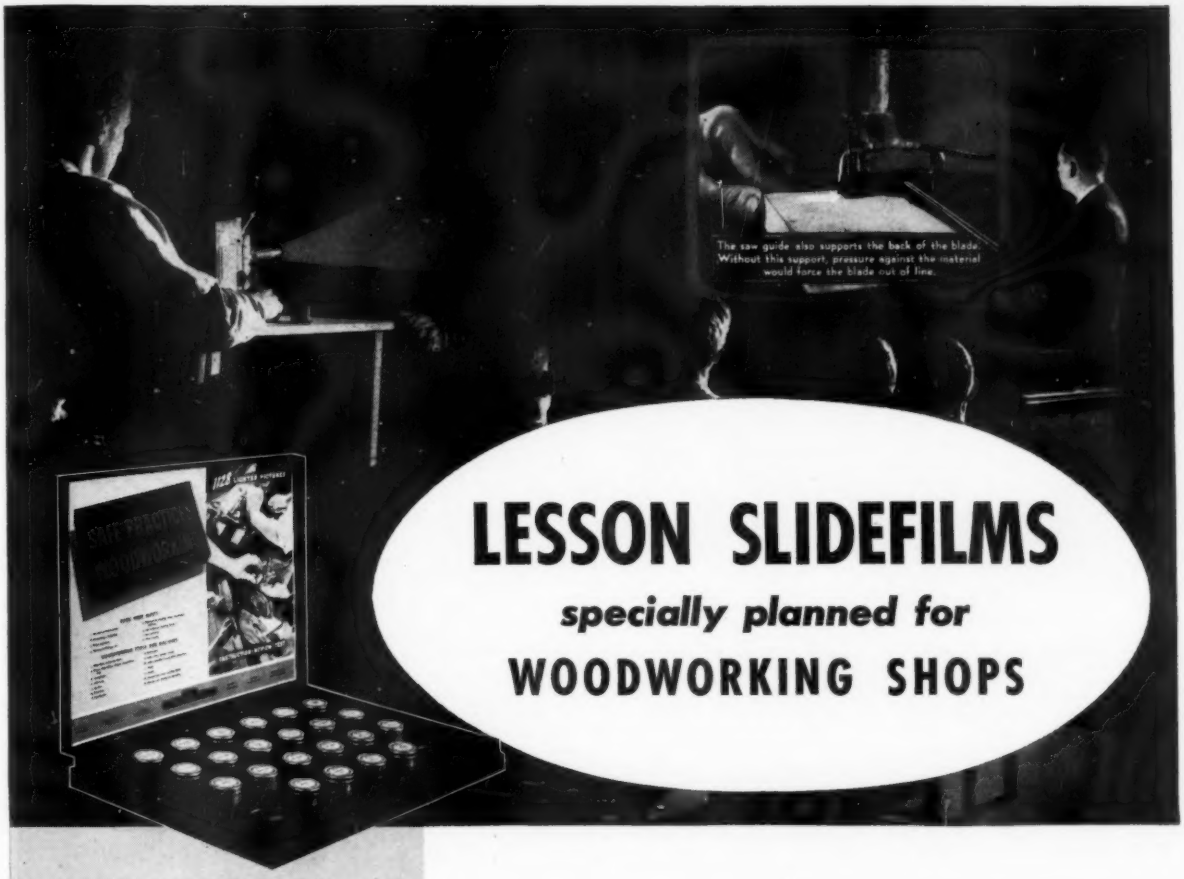
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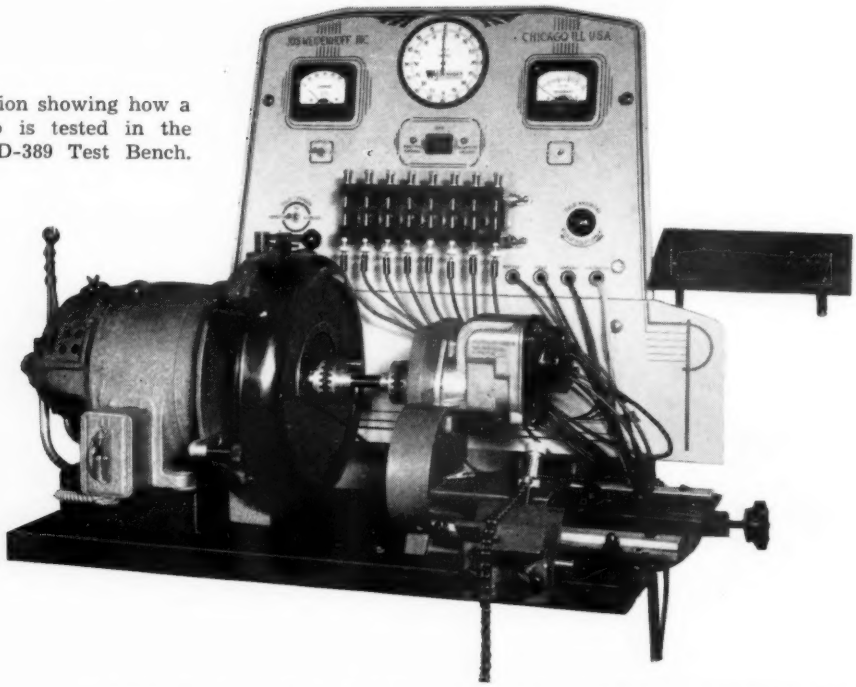

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